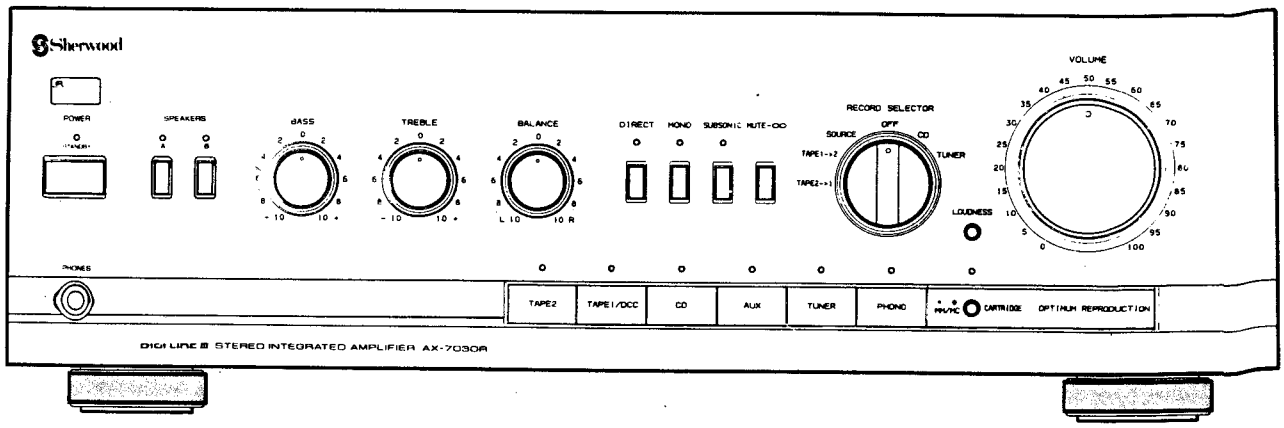
SERVICE MANUAL

AX-7030R

STEREO INTEGRATED AMPLIFIER



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Sherwood

SAFETY PRECAUTIONS

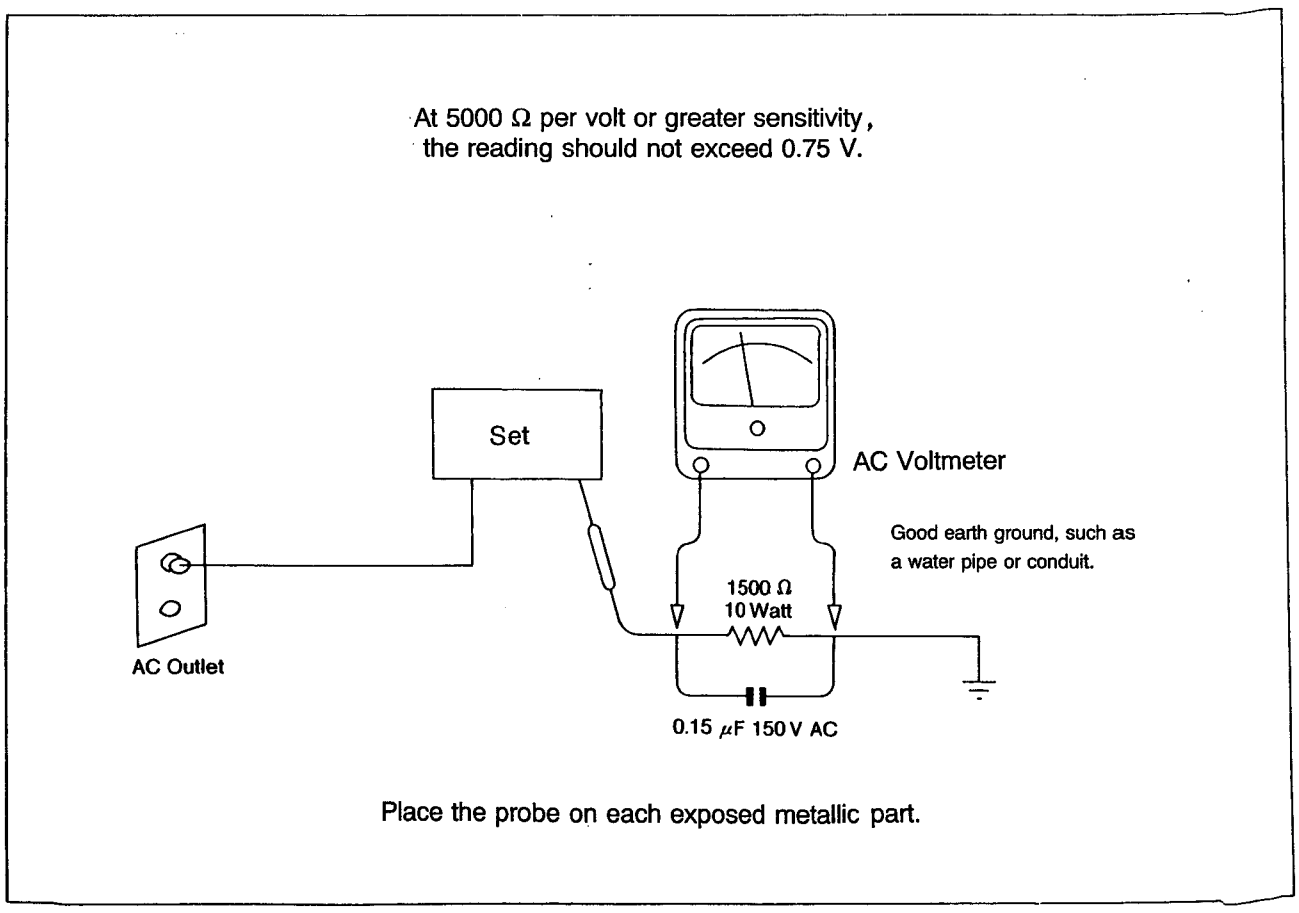
WARNING

Before servicing this unit, familiarize yourself with the following precautions:

1. Many electrical and mechanical parts in this player have special safety characteristics that often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by ⚠ in the schematic diagram and the parts list.

   Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire, or other hazards.

2. Before returning the set to the customer, always do an AC leakage current check on the exposed metal parts of the cabinet, such as terminals, screw heads, and metal overlays, to be sure the set is safe to operate without danger of electrical shock.
   Plug the AC line cord directly into a 120 V AC outlet **(120 V AC version only).** (Do not use a line isolation transformer during this check.)
   Be sure your AC voltmeter has a sensitivity of 5000 Ω per volt or greater. Then connect a 1500 Ω 10 watt resistor, paralleled by a 0.15 μF 150 V AC capacitor, between a known good earth ground (water pipe, or conduit) and the exposed metallic parts, one at a time. Measure the AC voltage across the combination of a 1500 Ω resistor and a 0.15 μF capacitor. Reverse the AC plug at the AC outlet and repeat AC voltage measurements for each exposed metallic part. Voltage measured must not exceed 0.75 V RMS. This corresponds to 0.2 mA AC. Any value exceeding this limit constitutes a potential shock hazard and must be corrected immediately.


At 5000 Ω per volt or greater sensitivity,
the reading should not exceed 0.75 V.
Set
AC Voltmeter
Good earth ground, such as
a water pipe or conduit.
1500 Ω
10 Watt
AC Outlet
0.15 μF 150 V AC
Place the probe on each exposed metallic part.

SPECIFICATIONS

Amplifier		Unit	Nominal	Limit
RMS output power				
both channels driven, into 8 Ω from 20 Hz – 20 kHz, with no more than 0.06% total hamonic distortion.		W	90	87
both channels driven, into 4 Ω at 1 kHz (DIN) with no more than 0.03% total hamonic distortion.		W	155	150
Intermodulation distortion at 90 watts output 60 Hz : 7 kHz=4 : 1 SMPTE		%	0.04	0.05
Damping factor at 8 Ω, 1 kHz				
Harmonic distortion at 87 watts output:				
	20 Hz	%	0.02	0.06
	1 kHz	%	0.02	0.06
	20 kHz	%	0.02	0.06
Frequency response at AUX 8 ohms load, 1 watt output, 20 – 70 kHz		dB		– 3
Input sensitivity at 90 watts, output 8 Ω, 1 kHz:				
	PHONO MC	mV	0.25	0.25±0.1
	PHONO MM	mV	2.5	2.5±0.3
	AUX	mV	150	150±30
Tone control:				
	BASS, 100 Hz	dB	±8	±10
	TREBLE, 10 kHz	dB	±8	±10
Phono amp. overload at 0.1 % THD, 1 kHz:		mV		160
Loudness compensation at -30 dB volume:				
	100 Hz	dB	+5	+5±2
	10 kHz	dB	+3	+3±1.5
Channel separation at AUX:				
	100 Hz	dB	65	60
	1 kHz	dB	65	50
	10 kHz	dB	60	55
Signal to noise ratio (WTD/UNWTD):				
	PHONO MC	dB	62	60
	PHONO MM	dB	74	70
	AUX	dB	92	87
Crosstalk at 1 kHz:				
	PHONO=AUX	dB	65	60
	AUX=PHONO	dB	70	65

General	
Power consumption:	820 watts, (⏦)
Dimensions (WHD)	17.3×4.9×13 inches (44×12.5×33 cm)
Weight (Net)	28.6 lbs (13 kg)

Power requirements:

A: 120 V, 60 Hz for American/Canadian Version
B: 120/220 V, 60/50 Hz for multy voltage Version (switchable)
D: 230 V, 50 Hz for German and Gereral European Version
E: 240 V, 50 Hz for UK/Austalian Version
G: 220 V, 50 Hz for Other Area

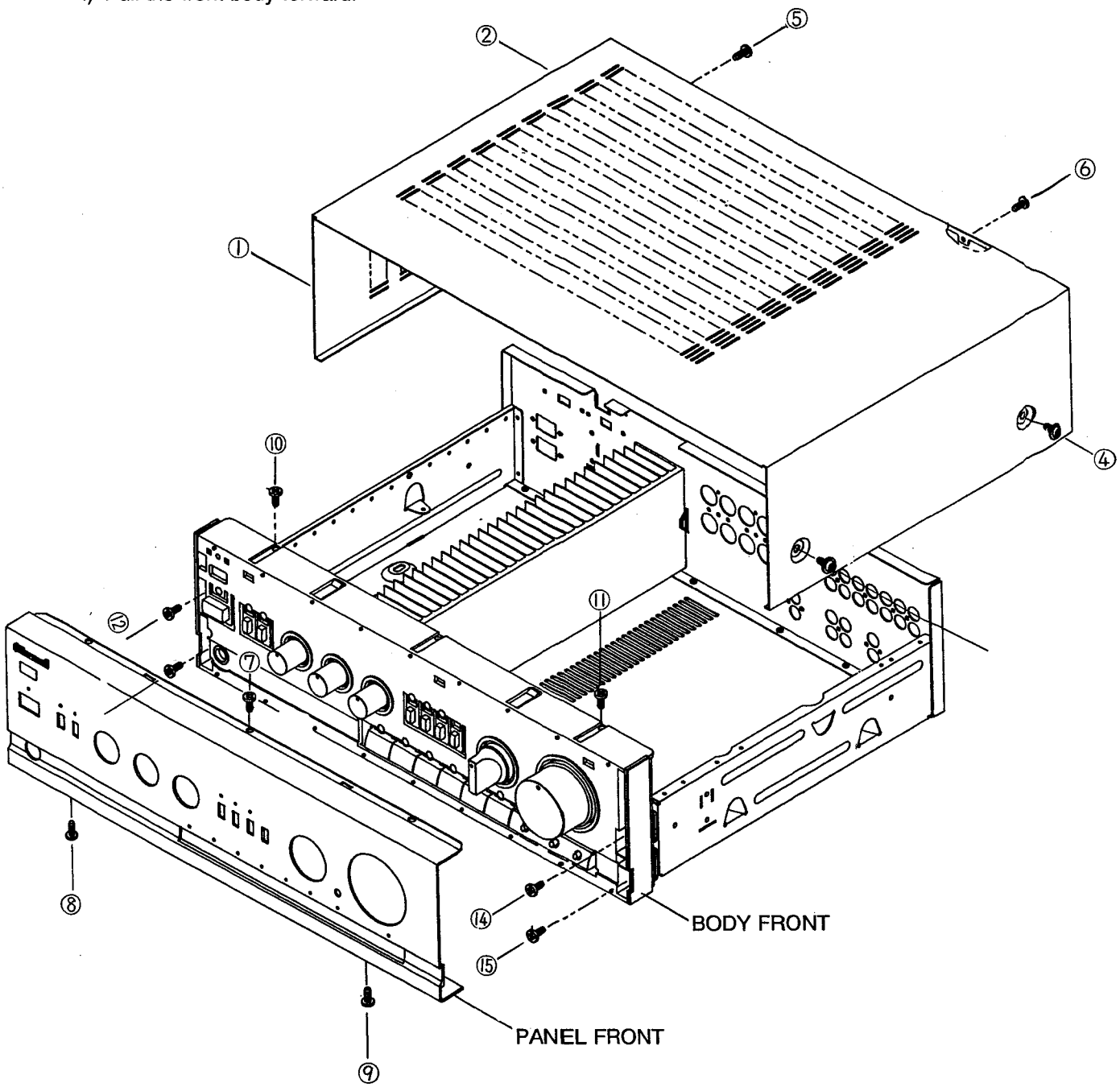
Notes:

1. Nominal spec represent the design spec. All unit should be able to approximate these-some will exceed and some may drop slightly below these specs. Limit specs represent the absolute worst condition that still might be considered acceptable: in no case should a unit fail to meet limit specs.
2. This manual is based on the EUR. (D) standard, and provides information on regional circuit modification through the use of alternate schematic diagram (s) or wiring diagram, and information on regional compornent variation through the use of parts lists. design and specifications subject to change without notice.

DISASSEMBLY INSTRUCTIONS

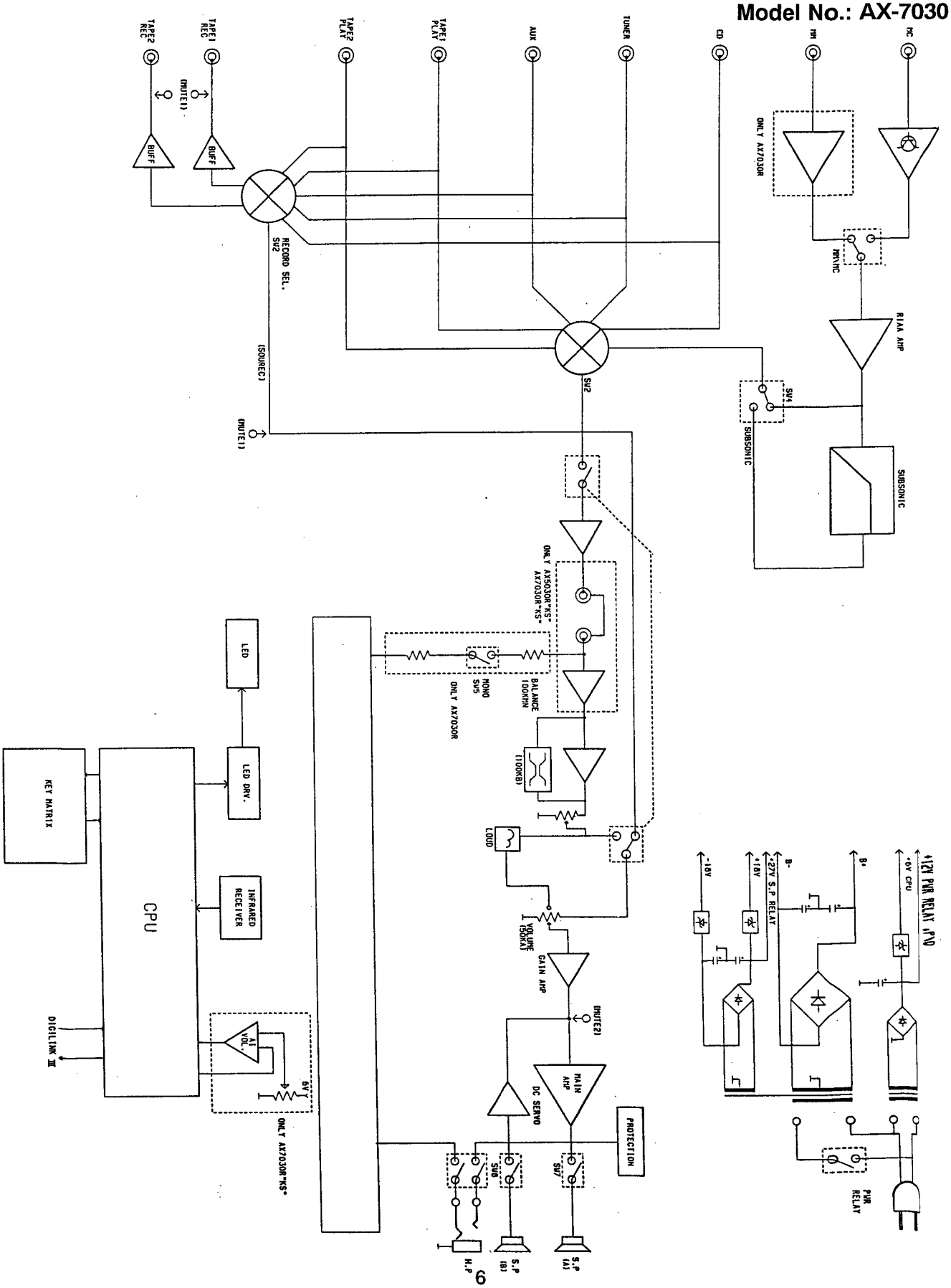
1. Remove the top cover.
Remove 6 screws (① to ⑥) holding the top cover.

2. Remove the front panel.
1) Remove 5 screws (⑦ to ⑪)
2) Remove the panel front
3) Remove 4 screws (⑫ to ⑮)
4) Pull the front body forward.



BLOCK DIAGRAM

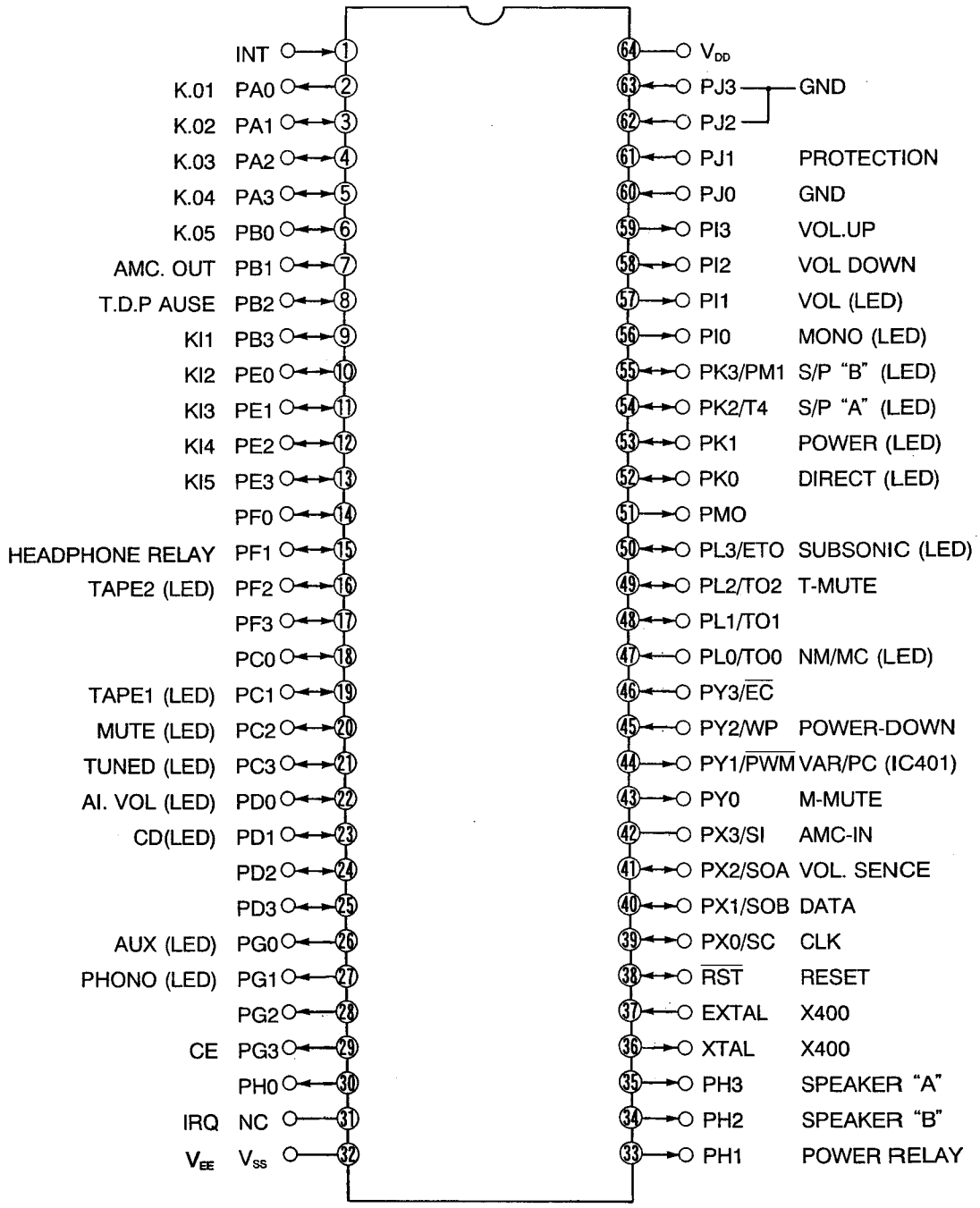
Model No.: AX-7030R



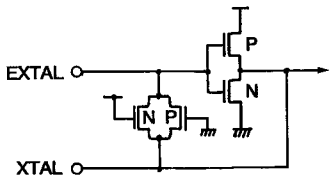
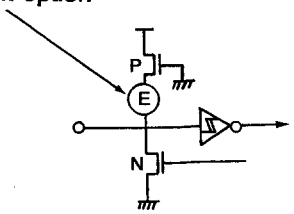
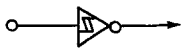
CIRCUIT DESCRIPTION

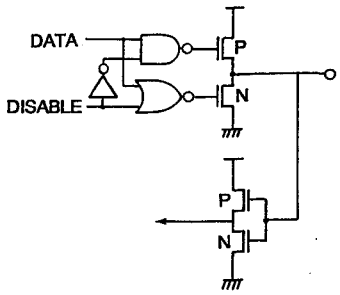
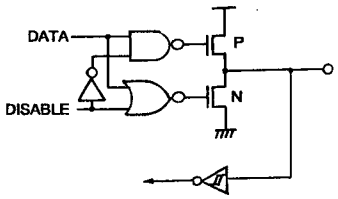
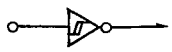
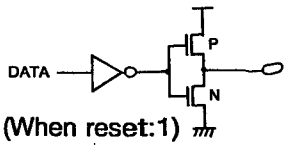
CPU, CXP5046H – 291S (IC402): 4 – bit MICROPROCESSOR

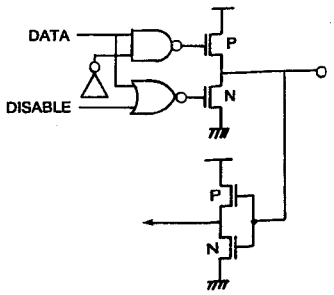
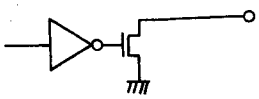
Pin Configuration Diagram (Top View)

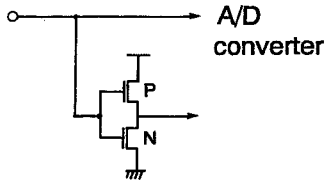
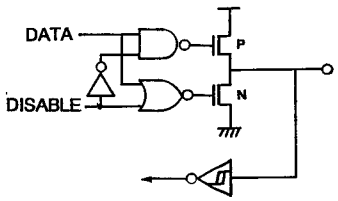
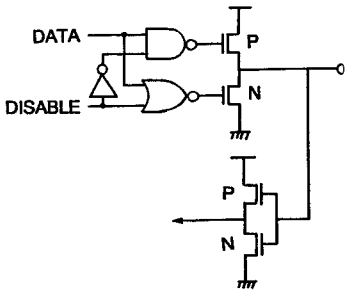
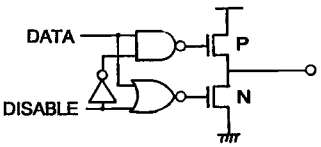


Description of Pin Function

Symbol	Name	Input/ output	Function description	Circuit
V_{DD}	Supply voltage	Input	Positive voltage supply pin	
V_{SS}	Grounding voltage	Input	GND pin	
EXTAL	Clock input	Input	Clock oscillation circuit input pin. Connect the crystal oscillator or ceramic resonator between the EXTAL and XTAL. To use an external clock input, connect the clock oscillation source to the EXTAL pin and open the XTAL pin.	
XTAL	Clock output	Output	Clock oscillation circuit output pin	
$\overline{RST}$	Reset	Input/ output	Serves as the incorporated power-on reset circuit output pin. When inputting a reset signal from the outside, provide 2 instrcution cycles or longer of an "L" level (0V).	Mask option  Output pull-up resistor (P-ch Tr) N-ch Tr output Schmitt inverter input
INT	External interrupt	Input	Serves as an interrupt input pin. Permits the selection with a program of the edge and the level modes.	
SI/PX3	Serial input Port X	Input	Doubles as a serial interface(8 bits) input pin and as bit "3" (input) of port X.	Schmitt inverter input

Symbol	Name	Input/ output	Function description	Circuit
SOA/PX2	Serial input Port X	Input/ output	In a 4-bit mode of serial interface (8 bits), doubles as the output pin of SIOA, and as bit "2" (input) of port X.	 Three-state output Inverter input
SOB/PX1	Serial output Port X	Input/ output	Doubles as a serial interface output pin and as bit "1" (input) of port X.	
$\overline{SC}$/PX0	Serial output Port X	Input/ output	Doubles as clock input/ output pin for the serial interface and as bit "0" (input) of port X.	 Three-state output Schmitt inverter input
$\overline{EC}$/PY3	Event counter input Port Y	Input	Doubles as the event counter (8 bits) input pin, and as bit "3" (input) of port Y.	 Schmitt inverter input
WP/PY2	Wake-up input Port Y	Input	Doubles as a wake-up input to release the standby state and as bit "2" (input) of port Y.	
$\overline{PWM}$/PY1	PWM output Port Y	Output	Doubles as a PWM generator (14 bits) output and as bit "1" (output) of port Y.	 (When reset:1) Inverter output
PY0	Port Y	Output	Output pin for bit "0" of port Y.	

Symbol	Name	Input/ output	Function description	Circuit
PA0-PA3	Port A	Input/ output	This 4-bit input/output port permits is its each individual bit to be programmed to serve either as input or output For its output format is a three-state.	 Three-state output Inverter input
PB0-PB3	Port B	Input/ output	This 4-bit input/output port has the functions that are equivalent to those of port A.	
PC0-PC3	Port C	Input/ output	This 4-bit input/output port permits its each individual port to be programmed to serve for input or output. For its output format is a three-state.	
PD0-PD3	Port D	Input/ output	This 4-bit input/output port has the functions that are equivalent to those of port C.	
PE0-PE3	Port E	Input/ output	This 4-bit input/output port has the functions that are equivalent to those of port C.	
PF0-PF3	Port F	Input/ output	This 4-bit input/output port has the functions that are equivalent to those of port C.	
PG0-PG3	Port G	Output	This is a 4-bit output port and is a break down voltage (12V) of N-ch open drain output pin.	 N-ch open drain output pin
PH0-PH3	Port H	Output	This 4-bit input/output port has the functions that are equivalent to those of port G.	
PI0-PI3	Port I	Output	This 4-bit input/output port has the functions that are equivalent to those of port G.	

Symbol	Name	Input/ output	Function description	Circuit
PJ0-PJ3	Analog input Port J	Input	Doubles as an analog input pin of A/D converter and as 4-bit input port pin.	
PMI/PK3	PPG external input Port K	Input/ output	Doubles as an external starting input of external triggerable timer and as bit "2" of port K.	 Three-state output Schmitt input
TI/PIK2	ETT external input Port K	Input/ output	Doubles as an external starting input of external triggerable timer and as bit "2" of port K.	
PK0-PK1	Port K	Input/ output	Lower 2-bit input/output pin of port K.	 Three-state output Schmitt input
PL0-PL3	Port L	Input/ output	This 4-bit input/output port has the functions that are equivalent to those of port C.	
$\overline{PMO}$	Programmable monostable multivibrator output	Output	It is monostable multivibrator output pin of programmable pulse generator. Its output format is a three-state.	 Three-state output

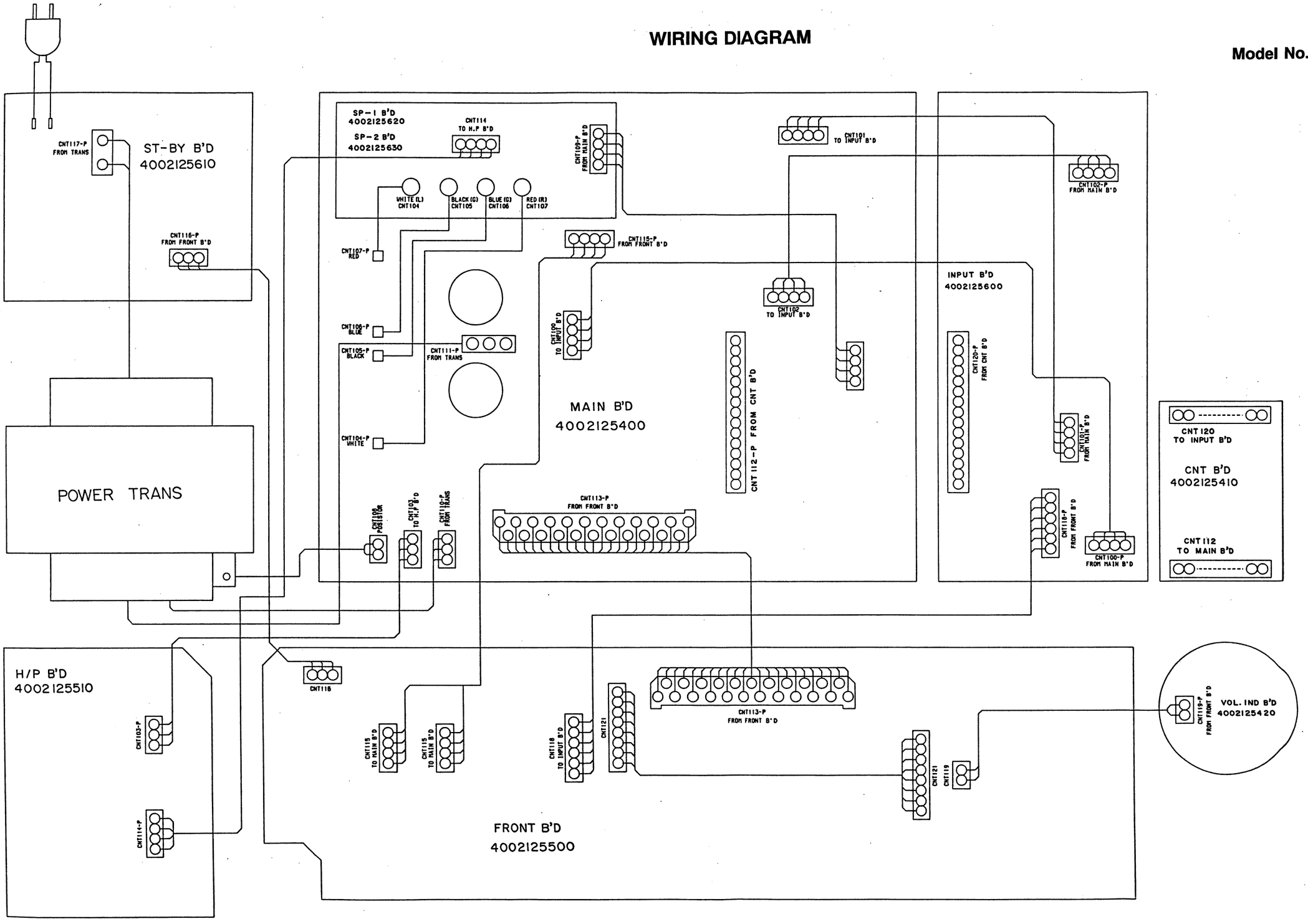
Note) All pins with the exception of V_{DD}, V_{SS}, output exclusive pins, and port J, the presence or non-presence of pull-up resistance may be designated by mask option for each pin (The resistor value is approximately 50 kΩ).

TROUBLESHOOTING

Symptom	Cause and Remedy
Amplifier inoperative.	• Faulty AC power cord. Replace. • Defective power switch. Replace. • Broken wire in the power transformer. Replace the power transformer. • Defective power transformer. Replace. • Damaged rectifying diodes D500 to D503. Replace the defective. • Short in the rectifying circuit. Repair the short.
Line out normally but headphones inoperative.	• Headphone plug dose not mate with jack. Replace the plug. • Defective transistor Q700 on headphone board. Replace the defective.
No sound from both channels or one channel.	• Defective in transistors Q200, Q201 on speaker board. Replace the defective component (s). • Defective in relay RLY200, RLY201. Replace the defective component (s). • Defective speaker selector switch. Replace.
The standby function does not work.	• Defective in transistors Q500, Q501 on standby board. Replace the defective component (s). • Defective in relay RLY500 on standby board. Replace the defective component. • Defective IC402 pin 33. Replace the IC402. • Defective standby transformer. Replace. • Defective in the standby circuit. Repair.
The indicators are not on.	• Defective in IC402 pin 47 to 57 on front board. Replace the IC402 (CPU). • Defective in diodes D402 to D415. Replace the defective component (s).
No record from source to recorder.	• Defective IC300. Replace. • Defective switch SW19. Replace.

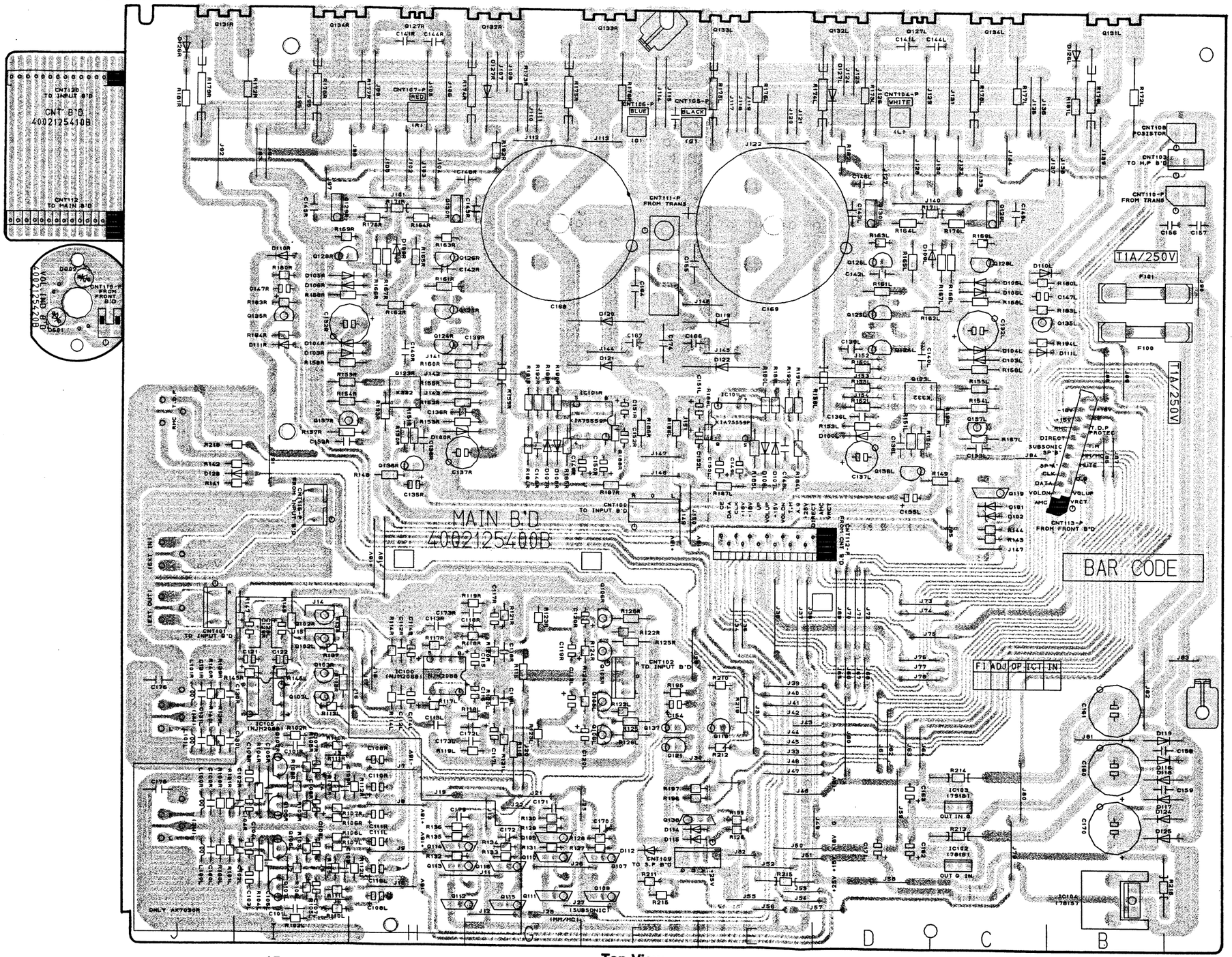
WIRING DIAGRAM

Model No.: AX-7030R



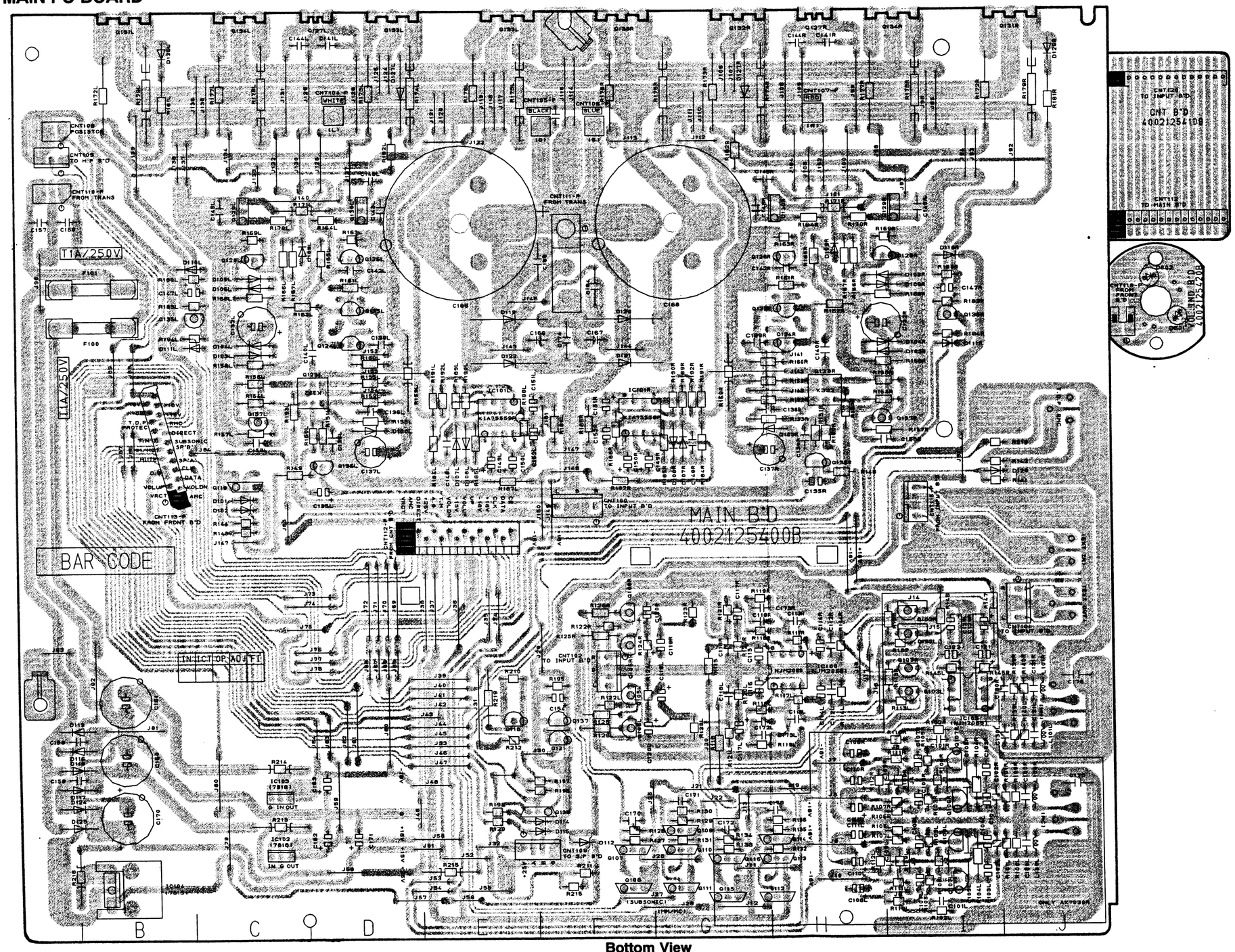
MAIN PC BOARD

PRINTED CIRCUIT BOARD

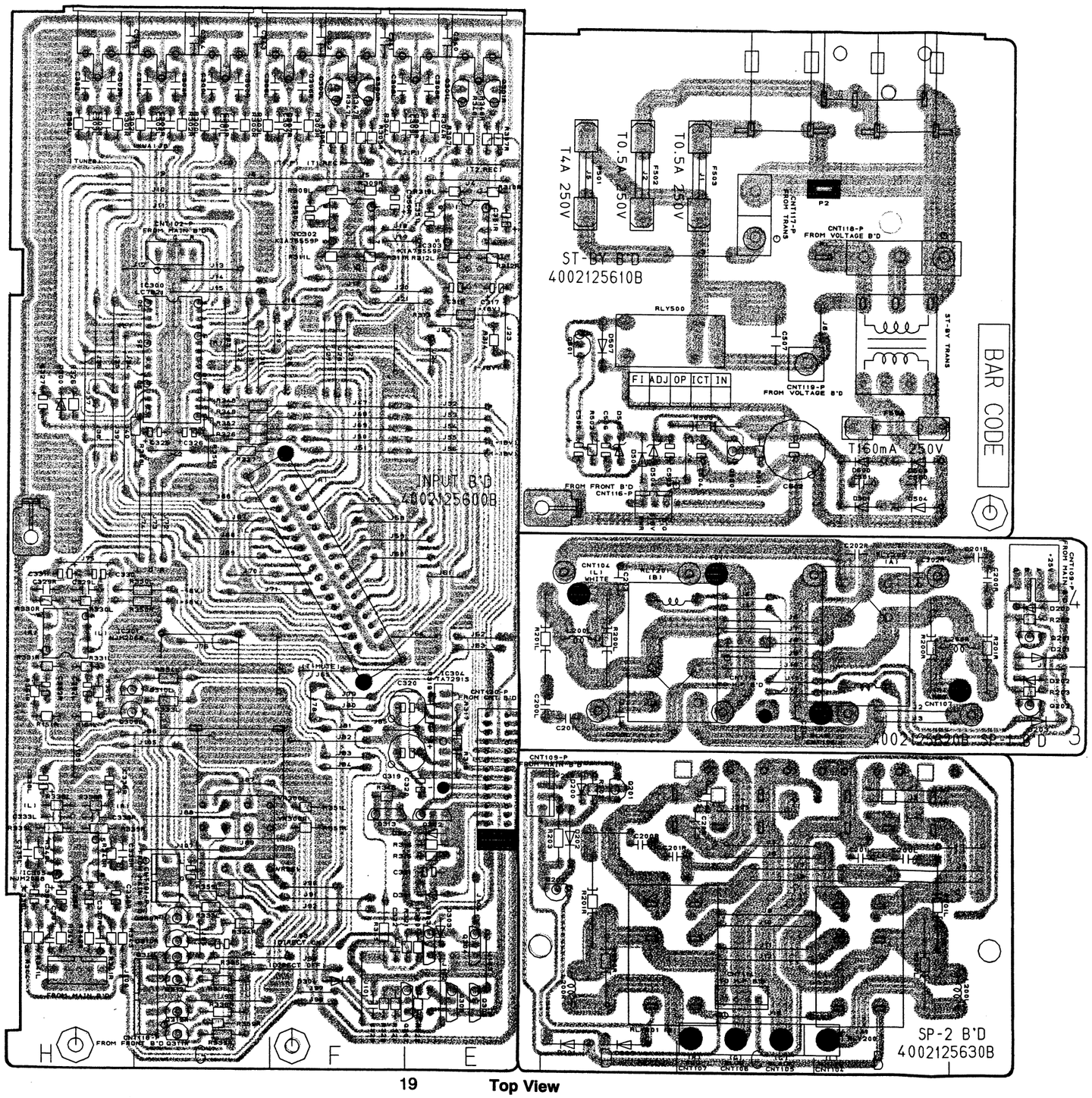


Top View

MAIN PC BOARD

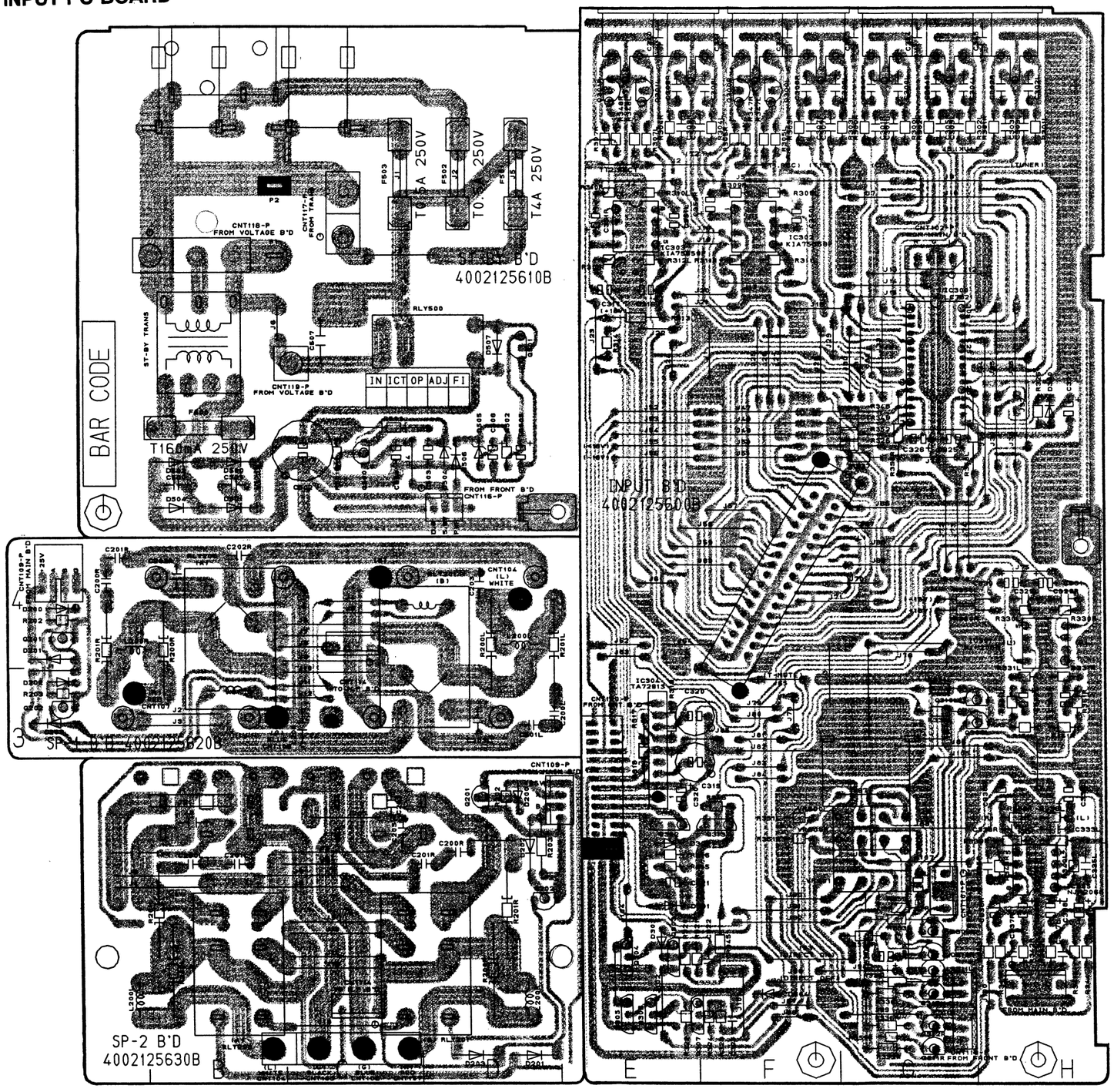

MAIN B'D
400212540B
BAR CODE
T1A/250V
T1A/250V
CNT B'D
400212540B
CNT TO INPUT B'D
CNT TO MAIN B'D
CNT TO FRONT B'D
CNT TO SUB B'D
CNT TO INPUT B'D
CNT TO INPUT B'D
CNT FROM TRANS
CNT FROM TRANS
CNT TO H/P B'D
CNT FROM FRONT B'D
CNT TO SUB B'D
CNT TO INPUT B'D
CNT TO INPUT B'D
CNT TO INPUT

INPUT PC BOARD



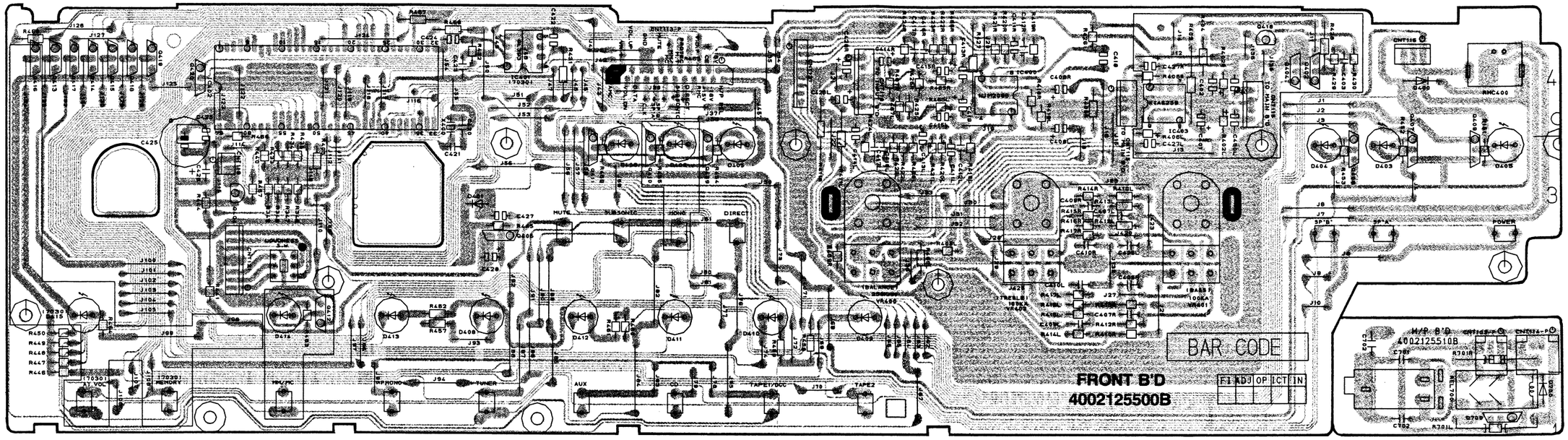
Top View

INPUT PC BOARD

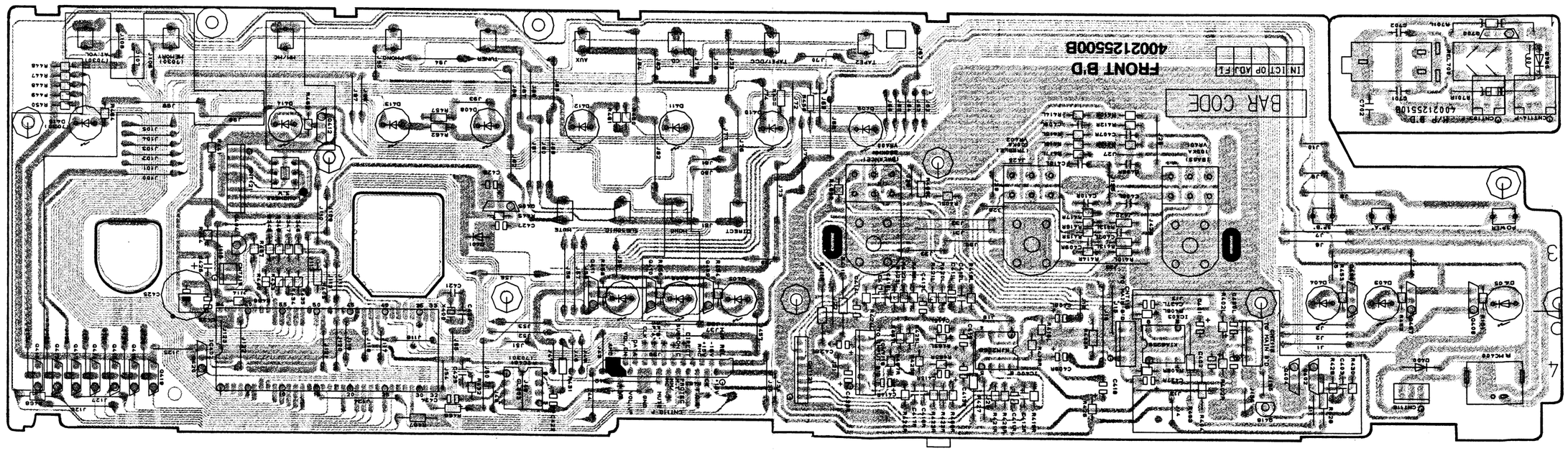


Bottom View

FRONT PC BOARD



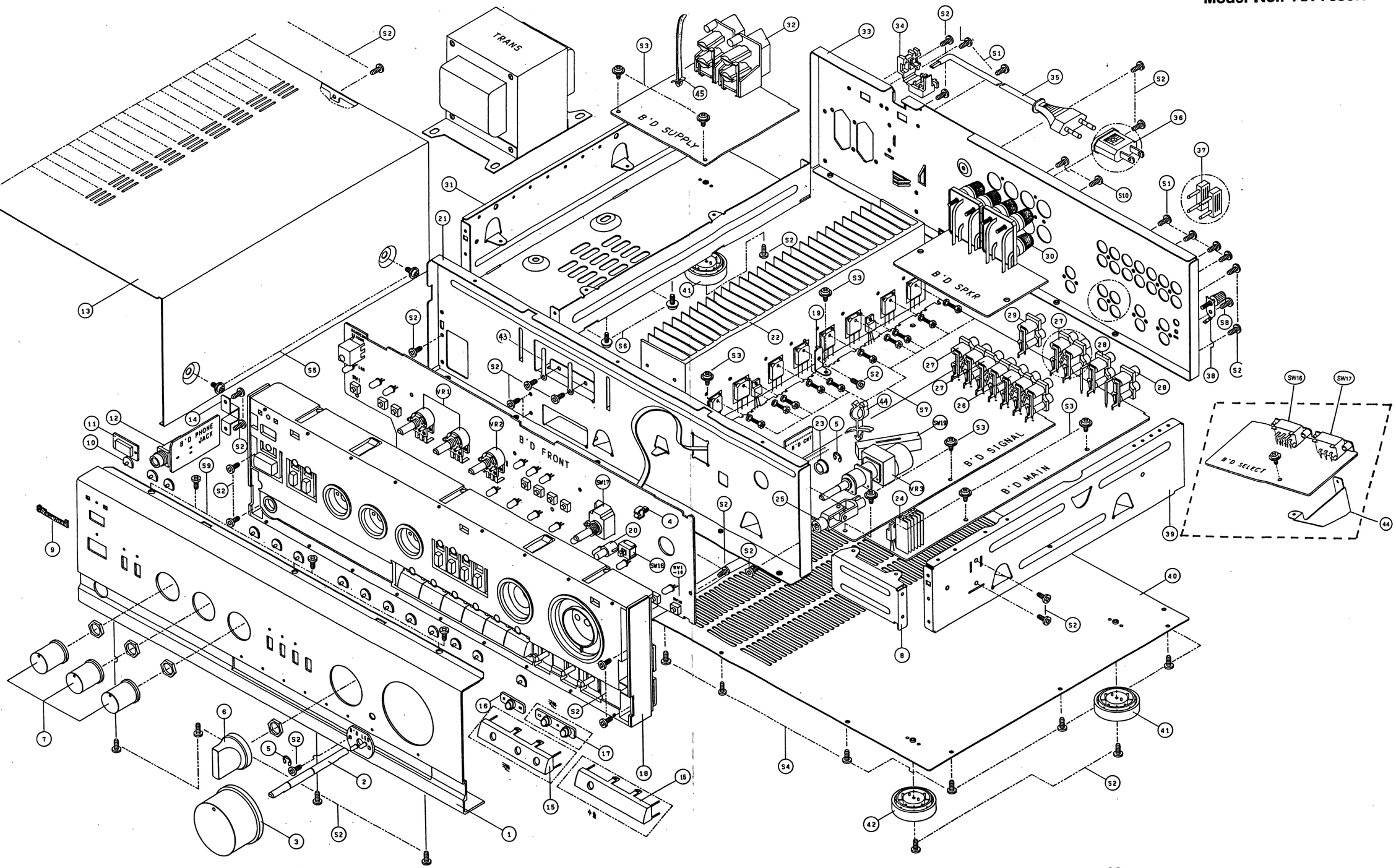
Top View



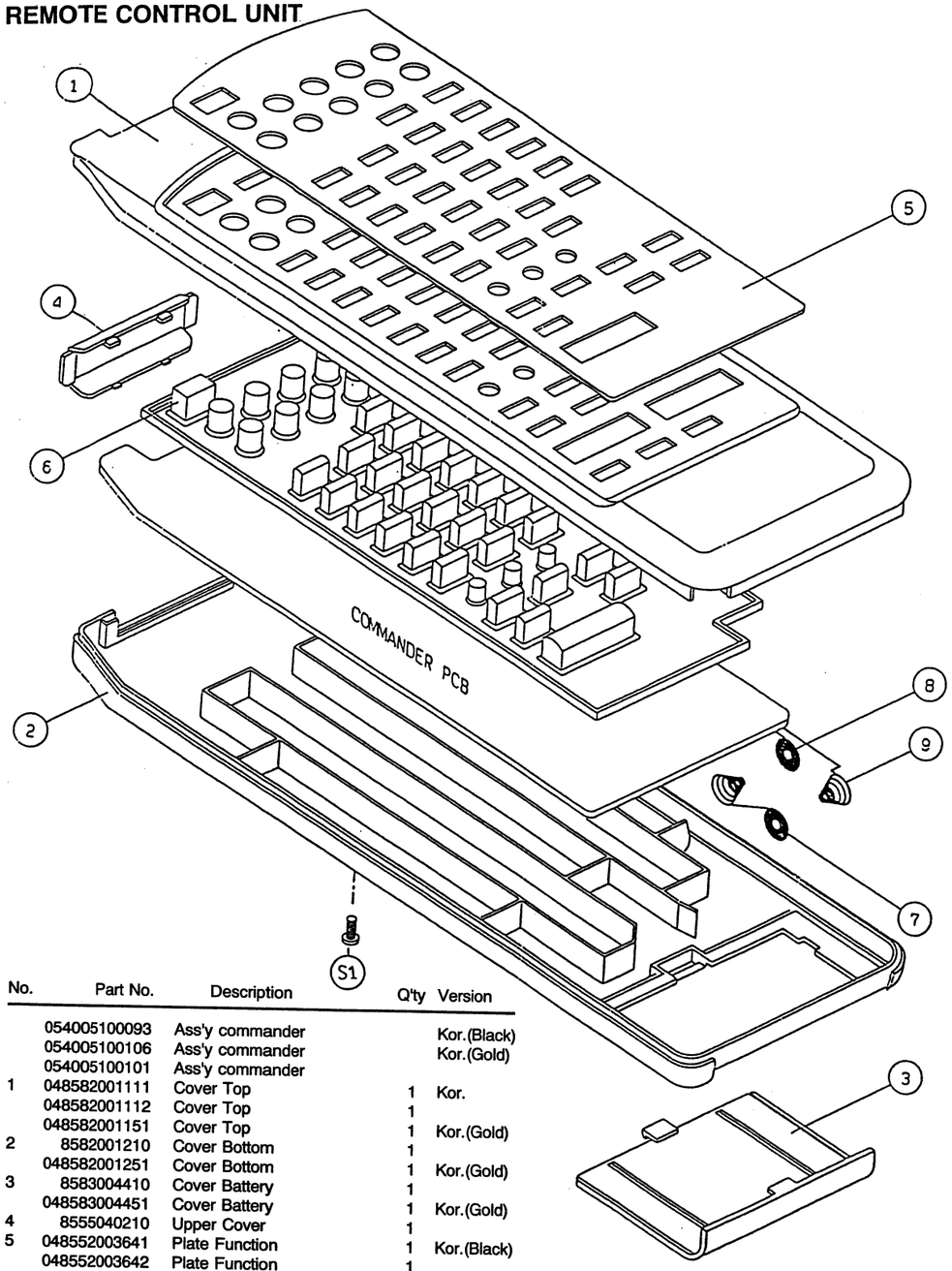
Bottom View

EXPLODED VIEW

Model No.: AX-7030R



REMOTE CONTROL UNIT



No.	Part No.	Description	Q'ty	Version
	054005100093	Ass'y commander		Kor.(Black)
	054005100106	Ass'y commander		Kor.(Gold)
	054005100101	Ass'y commander		
1	048582001111	Cover Top	1	Kor.
	048582001112	Cover Top	1	
	048582001151	Cover Top	1	Kor.(Gold)
2	8582001210	Cover Bottom	1	
	048582001251	Cover Bottom	1	Kor.(Gold)
3	8583004410	Cover Battery	1	
	048583004451	Cover Battery	1	Kor.(Gold)
4	8555040210	Upper Cover	1	
5	048552003641	Plate Function	1	Kor.(Black)
	048552003642	Plate Function	1	
	048552003643	Plate Function	1	Kor.(Gold)
6	048722000961	Rubber Tact	1	Kor.(Black)
	048722000962	Rubber Tact	1	
	048722000963	Rubber Tact	1	Kor.(Gold)
7	6555605310	Spring Battery (B)	1	
	6555009810	Spring Battery (−)	1	
	6555009710	Spring Battery (+)	1	
S1	8019120103	Screw PM 2×10B	1	

MECHANICAL PARTS LIST

Ref. No.	Part No.	Description	Q'ty	Version
1	048602019111	Panel, Front, AL	1	Kor.
	048602019121	Panel, Front, AL	1	
2	8555046710	Joint, Bar	1	Kor.
	8555046720	Joint, Bar	1	
3	048643006411	Knob, Volume, AL+ABS	1	
4	6528302410	Clip, Wire	1	
5	8339040011	Ring, F	2	
6	048643006311	Knob, Selector, AL+ABS	1	
7	048643004811	Knob, Rotary, AL+ABS	3	
8	6123409110	Bracket, PCB, SECC+ZN	1	
9	048535034011	Badge, ABS Gold	1	Kor.
	048535033911	Badge, ABS Gold	1	
10	8555031410	Guide, LED, ABS	14	Kor.
	8555031410	Guide, LED, ABS	13	
11	048555038511	Window, Sensor, PC	1	
12	4438005020	Jack, Phone, ABS	1	
13	046122021211	Cover, Top, SECC Black	1	
14	6165144910	Bracket, Phone, SECC+ZN	1	
15	048543055211	Dumy Button, ABS Black	1	Kor.
	048543055311	Dumy Button, ABS Black	1	
16	048525008911	Bezel Ring (A), ABS Gold	1	
17	048525009011	Bezel Ring (B), ABS Gold	1	Kor.
18	048521008411	Body Front, ABS Black	1	Kor.
	048521008421	Body Front, ABS Black	1	
19	6505130010	Bracket, PCB, SECC+ZN	1	
20	8545097310	Knob, Loud, ABS Black	1	
21	6121612610	Chassis, Front, SECC ZN	1	
22	7502007620	Heatsink, Power, AL	1	
23	6045010310	Guide, Shaft, Acetal	3	
24	7505206110	Heatsink, Regulator, TR.	1	
25	058543047410	Assembly, Universal Joint	1	
26	4438103210	Jack, RCA 6P, ABS	1	
27	4438103110	Jack, RCA 4P, ABS	3	Kor.
	4438103110	Jack, RCA 4P, ABS	2	
28	4438111310	Jack, RCA 2P, ABS	2	
29	4438112010	Jack, RCA 2P, ABS	1	
30	4408105810	Terminal, Speaker	1	Kor.,A,B,E,G
	4408106910	Terminal, Speaker	2	D
31	6121612510	Frame, Left, SECC+ZN	1	
32	4448103910	Outlet, 1P, ABS	2	Kor.
	4448103010	Outlet, 1P, ABS	1	A,B
	4448103610	Outlet, 1P, ABS	2	D,F
33	046102037811	Chassis, Back, SECC+ZN	1	Kor.
	046102037821	Chassis, Back, SECC+ZN	1	A
	046102037831	Chassis, Back, SECC+ZN	1	B
	046102037841	Chassis, Back, SECC+ZN	1	Ger.
	046102037851	Chassis, Back, SECC+ZN	1	D
	046102037861	Chassis, Back, SECC+ZN	1	U.K.
	046102037871	Chassis, Back, SECC+ZN	1	AU.
34	6518002310	Holder, AC Cord, ABS	1	
35	4308002410	Cord, AC Power	1	Kor.
	4308001010	Cord, AC Power	1	A,B
	4308002310	Cord, AC Power	1	C,F
	4308003610	Cord, AC Power	1	AU.
36	4428300310	Adapter, ABS	1	Kor. Only
37	4328204210	Plug, Jumper, ABS	2	Kor.
38	4408104910	Terminal, Ground	1	Kor.
	4408103710	Terminal, Ground	1	
39	6122636310	Frame, Right, SECC+ZN	1	
40	6122415730	Cover, Bottom, SECC+ZN	1	
41	046033102611	Foot (H. S), ABS	2	Kor.
	046033102611	Foot (H. S), ABS	4	
42	046033102711	Ring, Foot, Gold	2	Kor.
43		Clip, Wire	2	
44	6528302510	Clamp, Wire	3	Kor.
	6528302510	Clamp, Wire	1	
45	6528002810	Clamp, Cord	1	
46	6505122910	Bracket PCB	1	B Only
VR1	3208059910	VR, Rotary, 100KA	2	
VR2	3208060010	VR, Rotary, 250KMN	1	
VR3	3228016910	Volume, Motor	1	Kor.
	3228016710	Volume, Motor	1	
SW1-SW16	4658003710	Switch, Tact	16	Kor.
	4658003710	Switch, Tact	14	
SW17	4608003210	Switch, Selector	1	
SW18	4618007510	Switch, Slide	1	
SW19	4628050110	Switch, Push	1	
SW20	4618006570	Switch, Selector	1	B Only
SW21	4618006610	Switch, Vol. Selector	1	B Only
P1	4002125400	P.C.Board, Main	1	
P1-1	4002125410	P.C.Board, CNT	1	
P1-2	4002125420	P.C.Board, Volume Indicater	1	
P2	4002125500	P.C.Board, Front	1	
P2-1	4002125510	P.C.Board, Headphone	1	
P3	4002125600	P.C.Board, Input	1	
P3-1	4002125610	P.C.Board, ST/BY	1	
P3-2	4002125620	P.C.Board, Speaker-1	1	D
P3-3	4002125630	P.C.Board, Speaker-2	1	
P4	4002126700	P.C.Board, Voltage Selector	1	P.T Indo
S1	8119130103	Screw #1PT 3x10B	13	
	8119130103	Screw #1PT 3x10B	19	Ger. Only
S2	8109230083	Screw #2BTC 3x8B	42	
S3	8159230081	Screw #2WBTC 3x8Y	10	
S4	8109230063	Screw #2BTC 3x6B	14	
S5	8159440083	Screw #WSAM 4x8B	4	
S6	8159440081	Screw #WSAM 4x8Y	4	
S7	8499130121	Screw HEX MSPW 3x12Y	10	
S8	8119240061	Screw #2PTC 4x6Y	1	Kor.
	8109230083	Screw #2PTC 4x6Y	1	
S9	8129230143	Screw #2FTC 3x14B	3	
S10	8155000710	Screw, Ground	4	Kor.
	8155000710	Screw, Ground	2	

AX-7030GV

1	048602019112	Panel Front	1	
3	048643006412	Knob Volume	1	
6	048643006312	Knob Selector	1	
7	048643004812	Knob Rotary	3	
9	048335039711	Badge (Inkel)	1	
11	048555038512	Window Sensor	1	
13	046122021272	Cover Top, Secc, Gold	1	
15	048543055212	Dumy Btn	1	
16	048525009012	Bezel Ring(B)	1	
18	048521008412	Body Front	1	
33	046102037812	Chassis, Back	1	
41	046033101611	Foot (Hot Stamping)	2	
42	046033101711	Foot (Gold Ring)	2	

ELECTRICAL PARTS LIST

PRODUCT SAFETY NOTICE: Products marked with ⚠ have special characteristics important to safety.
If you replace any of these components, read carefully the product safety notice in this manual.
Don't degrade the safety of the product through improper servicing.
Resistor/Capacitor Tolerance, —D: (±0.5%), J: (±5%), K: (±10%), M: (±20%), Z: (+80, —20%)

Ref. No.	Part No.	Description	Q'ty	Version
P1	**054021010041**	**Assembly, PCB, Main**		
23	4438103110	Jack, RCA 4P, ABS	1	
24	4438103210	Jack, RCA 6P, ABS	1	
25	4438111310	Jack, RCA 2P, ABS	1	
26	4438112010	Jack, RCA 2P, ABS	1	
TRANS	2828000947	Power Transformer, 120/220 V, 50/60 Hz	1	P.T Indo
TRAS	2828000557	Power Transformer, 220 V, 60 Hz	1	Kor.
TRANS	2828000437	Power Transformer, 230 V, 50 Hz	1	D
C112L/R	3519100935	Ceramic, Tubular 10 pF 50 V J	2	
C114L/R	3479310121	Electrolytic SG 100 µF 10 V M	2	
C115/C116	3479310141	Electrolytic SG 100 µF 25 V M	2	
C117L/R	3479268871	Electrolytic SA 4.7 µF 50 V M	2	
C118L/R	3679562120	Mylar 0.0056 µF 100 V J	2	
C119L/R	3479210071	Electrolytic SA 10 µF 50 V J	2	
C120L/R	3479247971	Electrolytic SA 4.7 µF 50 V J	2	
C121L/R	3479247971	Electrolytic SA 4.7 µF 50 V M	2	
C124/C125	3679224297	Mylar 0.22 µF 63 V K	2	
C126L/R	3679562120	Mylar 0.0056 µF 100 V J	2	
C127L/R	3679182120	Mylar 0.0018 µF 100 V J	2	
C129	3519473935	Ceramic, Tubular 0.047 µF 50 V Z	1	
C130L/R	3519331935	Ceramic, Tubular 330 pF 50 V J	2	
C131L/R	3519101935	Ceramic, Tubular 100 pF 50 V J	2	
C132L/R	3409347139	Electrolytic SG 470 µF 16 V M	2	
C133	3409347169	Electrolytic SG 470 µF 35 V M	1	
C134	3479210971	Electrolytic SA 1 µF 50 V M	1	
C135L/R	3479247971	Electrolytic SA 4.7 µF 50 V M	2	
C136L/R	3519271935	Ceramic, Tubular 270 pF 50 V J	2	
C137L/R	3479347071	Electrolytic SG 47 µF 50 V M	2	
C138L/R	3519102935	Ceramic, Tubular 1000 pF 50 V K	2	
C139L/R	3519270935	Ceramic, Tubular 27 pF 50 V J	2	
C140L/R	3519082935	Ceramic, Tubular 8.2 pF 50 V D	2	
C141L/R	3579471130	Ceramic, Disc 470 pF 50 V J	2	
C142L/R	3519150935	Ceramic, Tubular 15 pF 50 V J	2	
C143L/R	3519101935	Ceramic, Tubular 100 pF 50 V J	2	
C144L/R	3519331935	Ceramic, Tubular 330 pF 50 V J	2	
C145L/R	3519101935	Ceramic, Tubular 100 pF 50 V J	2	
C146L/R	3679473120	Mylar 0.047 µF 100 V J	2	
C147L/R	3479247871	Electrolytic SA 0.47 µF 50 V M	2	
C148L/R	3519330935	Ceramic, Tubular 33 pF 50 V J	2	
C149L/R	3479222971	Electrolytic SA 22 µF 50 V J	2	
C150L/R	3479222971	Electrolytic SA 22 µF 50 V J	2	
C151L/R	3479347041	Electrolytic SG 47 µF 25 V M	2	
C152L/R	3479347041	Electrolytic SG 47 µF 25 V M	2	
C153L/R	3519680935	Ceramic, Tubular 68 pF 50 V J	2	
C154	3479347121	Electrolytic SG 470 µF 10 V M	1	
C155-C159	3519103935	Ceramic, Tubular 0.01 µF 50 V K	5	
C160/C161	3409310269	Electrolytic SG 1000 µF 35 V M	2	
C162/C163	3479210971	Electrolytic SA 1 µF 50 V M	2	
C164-C167	3519103935	Ceramic, Tubular 0.01 µF 50 V K	4	D
C168/C169	3419568280	Electrolytic HS 6800 µF 63 V	2	
CNT100-P	435205248331	Lead Assembly, 5P, 240 mm to Input B'D	1	Kor.
CNT101	436204558331	Lead Assembly, 4P, 550 mm to Input B'D	1	
CNT102	436104228331	Lead Assembly, 4P, 220 mm to Input B'D	1	
CNT103	436203283131	Lead Assembly, 3P, 280 mm from Headphone B'D	1	
CNT104-P	4428525860	Plug, 1P, AC	1	
CNT105-P	4428525860	Plug, 1P, AC	1	
CNT106-P	4428525860	Plug, 1P, AC	1	
CNT107-P	4428525860	Plug, 1P, AC	1	
CNT108	4428508210	Wafer, 2P	1	
CNT109	436204283131	Lead Assembly, 4P, 280 mm to Speaker B'D	1	
CNT110-P	4428505710	Wafer, 3P	1	
CNT111-P	4428525790	Wafer, AC, 3P	1	
CNT113-P	4428526330	Wafer, FPC 21P from Front B'D	1	
CNT115-P	4428517710	Wafer, 4P from Front B'D	1	Kor.
CNT120-P	4428513805	Wafer, 15P from CNT B'D	1	
	052438000283	Assembly, Posistor, 280 mm	1	
	4118621225	FPC Cable, YS=1.25-21-220-C	1	
D100L/R	2258599115	Zener, UZ 27.0BSC	2	
D101	2058322101	1N4148, Switching	1	
D102	2258599102	Zener, UZ 4.3BSB	1	
D103L/R	2058322101	1N4148, Switching	2	
D104L/R	2058322101	1N4148, Switching	2	
D105L/R	2058322101	1N4148, Switching	2	
D106L/R	2058322101	1N4148, Switching	2	
D107L/R	2058322101	1N4148, Switching	2	
D108L/R	2058322101	1N4148, Switching	2	
D109L/R	2058322101	1N4148, Switching	2	
D110L/R	2058322101	1N4148, Switching	2	
D111L/R	2058322101	1N4148, Switching	2	
D112	2258599107	Zener, UZ 9.1BSC	1	
D114/D115	2058322101	1N4148, Switching	2	
D116-D121	2258100135	1N4002, Rectifier	2	
D122	2058322101	1N4148, Switching	1	
D119-D122	2058100138	6A03, Rectifier	4	
D123L/R	2058322101	1N4148, Switching	2	
D124L/R	2058322101	1N4148, Switching	2	
F100	5508302035	Fuse, TL 1 A, 250 V	1	
F101	5508302035	Fuse, TL 1 A, 250 V	1	
IC100	2168020106	NJM2068DD	1	
IC101L/R	2168020106	NJM2068DD	2	
IC102	2168601106	GL7818, Regulator	1	
IC103	2168600106	KA7918, Regulator	1	
IC104	2168601105	GL7815, Regulator	1	
L101L/R	2648601470	Inductor, 24 mH	2	
Q105L/R	2218207106	FET, 2SK117Y, Switching, N Channel	2	
Q106L/R	2218207106	FET, 2SK117Y, Switching, N Channel	2	
Q107-Q111	2208222105	DTA114YS, Switching, PNP, Silicon	5	
Q117L/R	2208606114	MPSA06, NPN Silicon	2	
Q118	2208206105	KTA1015Y/BKTA1266Y, Switching, PNP, Silicon	1	
Q119	2208222105	DTA114YS, Switching, PNP, Silicon	1	
Q120L/R	2208606112	KTD1302B, Muting, NPN, Silicon	2	
Q121	2208606104	KTC1815Y/BKTC3198, Switching, NPN, Silicon	1	
Q123L/R	2018217700	2SK332	2	
Q124L/R	2208606108	KTC2240BL/BKTC3200, Amplifier, NPN, Silicon	2	
Q125L/R	2208606108	KTC2240BL/BKTC3200, Amplifier, NPN, Silicon	2	
Q126L/R	2208206102	BKTA949/KTA1024, PNP, Silicon	2	
Q127L/R	2008622110	2SC4137, Bias, NPN, Silicon	2	
Q128L/R	2208606107	KTC2229Y/KTC3206, Voltage Diver, NPN, Silicon	2	
Q129L/R	2028107115	2SA958, PNP, Silicon	2	
Q130L/R	2028407118	2SC2168, NPN, Silicon	2	
Q131L/R	2028416107	TR, Power, 2SC3854	2	
Q132L/R	2028416107	TR, Power, 2SC3854	2	
Q133L/R	2028116103	2SA1490, NPN, Silicon	2	
Q134L/R	2028116103	2SA1490, NPN, Silicon	2	

Ref. No.	Part No.	Description				Q'ty	Version
Q136L/R	2208606114	MPSA06, NPN Silicon				2	
Q137	2208606104	KTC1815Y/BKTC3198, Switching, NPN, Silicon				1	
Q138	2208222105	DTA114YS, Switching, PNP, Silicon				1	
R114L/R	3069919970	Carbon Film	91 ohm	1/5W	J	2	
R115/R116	3069471970	Carbon Film	470 ohm	1/5W	J	2	
R117L/R	3069821970	Carbon Film	820 ohm	1/5W	J	2	
R118L/R	3069824970	Carbon Film	820 kohm	1/5W	J	2	
R119L/R	3069433970	Carbon Film	43 kohm	1/5W	J	2	
R120L/R	3069104970	Carbon Film	100 kohm	1/5W	J	2	
R121L/R	3069102970	Carbon Film	1 kohm	1/5W	J	2	
R122	3069103970	Carbon Film	10 kohm	1/5W	J	1	
R123L/R	3069105970	Carbon Film	1 Mohm	1/5W	J	2	
R124L/R	3069102970	Carbon Film	1 kohm	1/5W	J	2	
R125	3069563970	Carbon Film	56 kohm	1/5W	J	1	
R125L/R	3069106970	Carbon Film	10 Mohm	1/5W	J	2	
R125L/R	3069103970	Carbon Film	10 kohm	1/5W	J	2	
R126L/R	3069106970	Carbon Film	10 Mohm	1/5W	J	2	
R127	3069104970	Carbon Film	100 kohm	1/5W	J	1	
R128	3069105970	Carbon Film	1 Mohm	1/5W	J	1	
R129	3069104970	Carbon Film	100 kohm	1/5W	J	1	
R130	3069105970	Carbon Film	1 Mohm	1/5W	J	1	
R131	3069103970	Carbon Film	10 kohm	1/5W	J	1	
R139L/R	3069919970	Carbon Film	91 ohm	1/5W	J	2	
R140L/R	3069102970	Carbon Film	1 kohm	1/5W	J	2	
R141	3069223970	Carbon Film	22 kohm	1/5W	J	1	Kor.
R142	3069224970	Carbon Film	220 kohm	1/5W	J	1	
R143/R144	3069105970	Carbon Film	1 Mohm	1/5W	J	2	
R148/R149	3069102970	Carbon Film	1 kohm	1/5W	J	2	
R150L/R	3069471970	Carbon Film	470 ohm	1/5W	J	2	
R151L/R	3069563970	Carbon Film	56 kohm	1/5W	J	2	
R152L/R	3069332970	Carbon Film	3.3 kohm	1/5W	J	2	
R153L/R	3069102970	Carbon Film	1 kohm	1/5W	J	2	
R154L/R	3069470970	Carbon Film	47 ohm	1/5W	J	2	
R155L/R	3069332970	Carbon Film	3.3 kohm	1/5W	J	2	
R156L/R	3069470970	Carbon Film	47 ohm	1/5W	J	2	
R157L/R	3069331970	Carbon Film	330 ohm	1/5W	J	2	
R158L/R	3069273970	Carbon Film	27 kohm	1/5W	J	2	
R159L/R	3029222572	Metal Film	2.2k ohm	2W	J	2	
R160L/R	3069102970	Carbon Film	1 kohm	1/5W	J	2	
R161L/R	3069102970	Carbon Film	1 kohm	1/5W	J	2	
R162L/R	3069103970	Carbon Film	10 kohm	1/5W	J	2	
R163L/R	3069121275	Carbon Film	120 ohm	1/4W	J	2	
R164L/R	3069339970	Carbon Film	3.3 ohm	1/5W	J	2	
R165L/R	3069272970	Carbon Film	2.7 kohm	1/5W	J	2	
R166L/R	3069202970	Carbon Film	2 kohm	1/5W	J	2	
R167L/R	3069123970	Carbon Film	12 kohm	1/5W	J	2	
R168L/R	3069183970	Carbon Film	18 kohm	1/5W	J	2	
R169L/R	3069121275	Carbon Film	120 ohm	1/4W	J	2	
R170L/R	3069339970	Carbon Film	3.3 ohm	1/5W	J	2	
R171L/R	3029391472	Metal Film	390 ohm	1W	J	2	
R172	3069339970	Carbon Film	3.3 ohm	1/5W	J	1	
R172R	069339970	Carbon Film	3 ohm	1/5W	J	1	
R173	3069339970	Carbon Film	3 ohm	1/5W	J	1	
R173R	3069339970	Carbon Film	3 ohm	1/5W	J	1	
R174L/R	3059398782	Cement	0.39 ohm	5W	J	2	
R175L/R	3059398782	Cement	0.39 ohm	5W	J	2	
R176L/R	3069339970	Carbon Film	0.39 ohm	1/5W	J	2	
R177L/R	3069339970	Carbon Film	3.3 ohm	1/5W	J	2	
R178L/R	3059398782	Cement	0.39 ohm	5W	J	2	
R179L/R	3059398782	Cement	0.39 ohm	5W	J	2	
R180L/R	3069153970	Carbon Film	15 kohm	1/5W	J	2	
R181L/R	3069221970	Carbon Film	220 ohm	1/5W	J	2	
R182L/R	3069221970	Carbon Film	220 ohm	1/5W	J	2	
R183L/R	3069151970	Carbon Film	150 ohm	1/5W	J	2	
R184L/R	3069183970	Carbon Film	18 kohm	1/5W	J	2	
R185L/R	3069183970	Carbon Film	18 kohm	1/5W	J	2	
R186L/R	3069471970	Carbon Film	470 ohm	1/5W	J	2	
R187L/R	3069471970	Carbon Film	470 ohm	1/5W	J	2	
R188L/R	3069472970	Carbon Film	4.7 kohm	1/5W	J	2	
R189L/R	3069242970	Carbon Film	2.4 kohm	1/5W	J	2	
R190L/R	3069472970	Carbon Film	4.7 kohm	1/5W	J	2	
R191L/R	3069273970	Carbon Film	27 kohm	1/5W	J	2	
R192L/R	3069273970	Carbon Film	27 kohm	1/5W	J	2	
R193L/R	3069102970	Carbon Film	1 kohm	1/5W	J	2	
R194L/R	3069223970	Carbon Film	22 kohm	1/5W	J	2	
R195	3069152970	Carbon Film	1.5 kohm	1/5W	J	1	
R196/R197	3069223970	Carbon Film	22 kohm	1/5W	J	2	
R197/R198	3069332970	Carbon Film	3.3 kohm	1/5W	J	2	
R198/R199	3069104970	Carbon Film	100 kohm	1/5W	J	2	
R210	3069102970	Carbon Film	1 kohm	1/5W	J	1	
R211	3069822970	Carbon Film	8.2 kohm	1/5W	J	1	
R211/R212	3069103970	Carbon Film	10 kohm	1/5W	J	2	
R213/R214	3029100472	Metal Film	10 ohm	1W	J	2	
R215	3029330472	Metal Film	33 ohm	1W	J	1	
R216	3029150472	Metal Film	15 ohm	1W	J	1	
	4235007310	Terminal, Ground				2	
P3-2,3	**054021010044**	**Assembly, PCB, Speaker 1, 2**					
27	4408105510	Terminal, Speaker, ABS				1	A,B,E,G
	4408105810	Terminal, Speaker, ABS				2	Kor.C,D
C200L/R	3679104297	Mylar	0.1 µF	63 V	K	2	
C201L/R	3679104297	Mylar	0.1 µF	63 V	K	2	
C202L/R	3519104935	Ceramic, Tubular	0.1 µF	50 V	K	2	
C205L/R	3519104935	Ceramic, Tubular	0.1 µF	50 V	K	2	
D200	2058322101	1N4148, Switching				1	
D201	2258100135	1N4002, Rectifier				1	
D202	2058322101	1N4148, Switching				1	
D203	2258100135	1N4002, Rectifier				1	
L200L/R	2648001010	Inductor, 0.5 uH				2	
Q200/Q201	2208606114	MPSA06, NPN Silicon				2	
R200L/R	3029100472	Metal Film	10 ohm	1W	J	2	
R201	3069333970	Carbon Film	33 kohm	1/5W	J	1	
R201L/R	3029100472	Metal Film	10 ohm	1W	J	2	
R202	3069333970	Carbon Film	33 kohm	1/5W	J	1	
RLY200	5528001630	Relay, OSA-SS-224DM5				1	
RLY201	5528001630	Relay, OSA-SS-224DM5				1	
CNT114	436204503131	Lead Assembly, 1P, 550 mm to Headphone				1	
CNT104	4359854920	Lead Assembly, 1P, 200 mm, LV, Diamond White				1	
CNT105	4359854920	Lead Assembly, 1P, 200 mm, LV, Diamond Black				1	
CNT106	4359854920	Lead Assembly, 1P, 200 mm, LV, Diamond Blue				1	
CNT107	4359854920	Lead Assembly, 1P, 200 mm, LV, Diamond Red				1	
CNT109-P	4428517710	Wafer, 4P from Main				1	
P3-1	**054021010045**	**Assembly, PCB, ST/BY**					
28	4448103910	Outlet, 1P, ABS				2	Kor.
C500	3679103120	Mylar	0.01 µF	63 V	K	1	
C501	3679103120	Mylar	0.01 µF	63 V	K	1	
C502	3409333179	Electrolytic SG	330 µF	50 V	M	1	
C503/C504	3479322071	Electrolytic SG	22 µF	50 V	M	2	
C505	3479210971	Electrolytic SA	1 µF	50 V	M	1	
C506	3479310121	Electrolytic SG	100 µF	10 V	M	1	
C507	3549472407	Ceramic, Disc	0.0047 µF	400 V		1	
D500-D503	2258100135	1N4002, Rectifier				4	
D504	2258599105	Zener, UZ 6.2BSB				1	
D505	2258599100	Zener, UZ 3.3BSA				1	
D506	2058322101	1N4148, Switching				1	
D507	2258100135	1N4002, Rectifier				1	
F500	5508300934	Fuse, TL 150 mA, 250 V				1	
F501	5508302735	Fuse, TL 3.15 A, 250 V				1	D,Kor.
F502	5508301634	Fuse, TL 0.5 A, 250 V				1	D

Ref. No.	Part No.	Description	Q'ty	Version
L100L/R	2648601470	Inductor, 24 mH	2	
L101L/R	2648601470	Inductor, 24 mH	2	
Q100L/R	2008607114	2SC3329GR	2	
Q101L/R	2008207107	2SA1316GR	2	
Q102L/R	2218207106	FET, 2SK117Y, Switching, N Channel	2	
Q103L/R	2218207106	FET, 2SK117Y, Switching, N Channel	2	
Q105L/R	2218207106	FET, 2SK117Y, Switching, N Channel	2	
Q106L/R	2218207106	FET, 2SK117Y, Switching, N Channel	2	
Q107-Q111	2208222105	DTA114YS, Switching, PNP, Silicon	5	
Q112-Q116	2218207106	FET, 2SK117Y, Switching, N Channel	5	
Q117L/R	2208606114	MPSA06, NPN Silicon	2	
Q118	2208206105	KTA1015Y/BKTA1266, Switching, PNP, Silicon	1	
Q119	2208222105	DTA114YS, Switching, PNP, Silicon	1	
Q120L/R	2208606112	KTD1302B, muting, NPN Silicon	2	
Q121	2208606104	KTC1815Y/BKTC3198, Switching, NPN, Silicon	1	
Q123L/R	2018217700	2SK332	2	
Q124L/R	2208606108	KTC2240BL/BKTC3200, Amplifier, NPN, Silicon	2	
Q125L/R	2208606108	KTC2240BL/BKTC3200, Amplifier, NPN, Silicon	2	
Q126L/R	2208206102	BKTA949/KTA1024, PNP, Silicon	2	
Q127L/R	2008622110	2SC4137, Bias, NPN	2	
Q128L/R	2208606107	KTC2229Y/KTC3206, Voltage Driver, NPN, Silicon	2	
Q129L/R	2028107115	2SA958, PNP Silicon	2	
Q130L/R	2028407118	2SC2168, NPN, Silicon	2	
Q131L/R	2028416106	TR, Power, 2SC3854	2	
Q132L/R	2028416106	TR, Power, 2SC3854	2	
Q133L/R	2028116103	2SA1491, NPN Silicon	2	
Q134L/R	2028116103	2SA1491, NPN Silicon	2	
Q136L/R	2208606114	MPSA06, NPN Silicon	2	
Q137	2208606104	KTC1815Y/BKTC3198, Switching, NPN, Silicon	1	
Q138	2208222105	DTA114YS, Switching, PNP, Silicon	1	
R100L/R	3069122970	Carbon Film 1.2 kohm 1/5W J	2	
R101L/R	3069680970	Carbon Film 68 ohm 1/5W J	2	
R102L/R	3069911970	Carbon Film 910 ohm 1/5W J	2	
R103L/R	3069473970	Carbon Film 47 kohm 1/5W J	2	
R104L/R	3069103970	Carbon Film 10 kohm 1/5W J	2	
R105L/R	3069473970	Carbon Film 47 kohm 1/5W J	2	
R106L/R	3069562970	Carbon Film 5.6 kohm 1/5W J	2	
R107L/R	3069152970	Carbon Film 1.5 kohm 1/5W J	2	
R108L/R	3069100970	Carbon Film 10 ohm 1/5W J	2	
R109L/R	3069470970	Carbon Film 47 ohm 1/5W J	2	
R110L/R	3069562970	Carbon Film 5.6 kohm 1/5W J	2	
R111L/R	3069152970	Carbon Film 1.5 kohm 1/5W J	2	
R112L/R	3069104970	Carbon Film 100 kohm 1/5W J	2	
R113L/R	3069106970	Carbon Film 10 Mohm 1/5W J	2	
R114L/R	3069472970	Carbon Film 4.7 kohm 1/5W J	2	
R115/R116	3069471970	Carbon Film 470 ohm 1/5W J	2	
R117L/R	3069821970	Carbon Film 820 ohm 1/5W J	2	
R118L/R	3069564970	Carbon Film 560 kohm 1/5W J	2	
R119L/R	3069433970	Carbon Film 43 kohm 1/5W J	2	
R120L/R	3069104970	Carbon Film 100 kohm 1/5W J	2	
R121L/R	3069471970	Carbon Film 470 ohm 1/5W J	2	
R122	3069223970	Carbon Film 22 kohm 1/5W J	1	
R123L/R	3069105970	Carbon Film 1 Mohm 1/5W J	2	
R124L	3069123970	Carbon Film 12 kohm 1/5W J	1	
R124R	3069124970	Carbon Film 120 kohm 1/5W J	1	
R125	3069563970	Carbon Film 56 kohm 1/5W J	1	
R125L/R	3069106970	Carbon Film 10 Mohm 1/5W J	2	
R125L/R	3069103970	Carbon Film 10 kohm 1/5W J	2	
R126L/R	3069106970	Carbon Film 10 Mohm 1/5W J	2	
R127	3069104970	Carbon Film 100 kohm 1/5W J	1	
R128	3069105970	Carbon Film 1 Mohm 1/5W J	1	
R129	3069104970	Carbon Film 100 kohm 1/5W J	1	
R130	3069105970	Carbon Film 1 Mohm 1/5W J	1	
R131/R132	3069103970	Carbon Film 10 kohm 1/5W J	2	
R133	3069104970	Carbon Film 100 kohm 1/5W J	1	

Ref. No.	Part No.	Description	Q'ty	Version
R134	3069335970	Carbon Film 3.3 Mohm 1/5W J	1	
R135	3069104970	Carbon Film 100 kohm 1/5W J	1	
R136	3069335970	Carbon Film 3.3 Mohm 1/5W J	1	
R137/R138	3069106970	Carbon Film 10 Mohm 1/5W J	2	
R139L/R	3069473970	Carbon Film 47 kohm 1/5W J	2	
R140L/R	3069102970	Carbon Film 1 kohm 1/5W J	2	
R141	3069223970	Carbon Film 22 kohm 1/5W J	1	Kor.
R142	3069224970	Carbon Film 220 kohm 1/5W J	1	
R143/R144	3069105970	Carbon Film 1 Mohm 1/5W J	2	
R145L/R	3069104970	Carbon Film 100 kohm 1/5W J	2	
R148/R149	3069102970	Carbon Film 1 kohm 1/5W J	2	
R150L/R	3069471970	Carbon Film 470 ohm 1/5W J	2	
R151L/R	3069563970	Carbon Film 56 kohm 1/5W J	2	
R152L/R	3069332970	Carbon Film 3.3 kohm 1/5W J	2	
R153L/R	3069102970	Carbon Film 1 kohm 1/5W J	2	
R154L/R	3069470970	Carbon Film 47 ohm 1/5W J	2	
R155L/R	3069332970	Carbon Film 3.3 kohm 1/5W J	2	
R156L/R	3069470970	Carbon Film 47 ohm 1/5W J	2	
R157L/R	3069331970	Carbon Film 330 ohm 1/5W J	2	
R158L/R	3069273970	Carbon Film 27 kohm 1/5W J	2	
R159L/R	3029222572	Metal Film 2.2k ohm 2W J	2	
R160L/R	3069102970	Carbon Film 1 kohm 1/5W J	2	
R161L/R	3069102970	Carbon Film 1 kohm 1/5W J	2	
R162L/R	3069103970	Carbon Film 10 kohm 1/5W J	2	
R163L/R	3069121275	Carbon Film 120 ohm 1/4W J	2	
R164L/R	3069339970	Carbon Film 3.3 ohm 1/5W J	2	
R165L/R	3069272970	Carbon Film 2.7 kohm 1/5W J	2	
R166L/R	3069202970	Carbon Film 2 kohm 1/5W J	2	
R167L/R	3069123970	Carbon Film 12 kohm 1/5W J	2	
R168L/R	3069183970	Carbon Film 18 kohm 1/5W J	2	
R169L/R	3069121275	Carbon Film 120 ohm 1/4W J	2	
R170L/R	3069339970	Carbon Film 3.3 ohm 1/5W J	2	
R171L/R	3029391472	Metal Film 390 ohm 1W J	2	
R172	3069339970	Carbon Film 3.3 ohm 1/5W J	1	
R172R	3069339970	Carbon Film 3.3 ohm 1/5W J	2	
R173	3069339970	Carbon Film 3.3 ohm 1/5W J	1	
R173R	3069339970	Carbon Film 3.3 ohm 1/5W J	1	
R174L/R	3059398782	Cement 0.39 ohm 5W J	2	
R175L/R	3059398782	Cement 0.39 ohm 5W J	2	
R176L/R	3069339970	Carbon Film 3.3 ohm 1/5W J	2	
R177L/R	3069339970	Carbon Film 3.3 ohm 1/5W J	2	
R178L/R	3059398782	Cement 0.39 ohm 5W J	2	
R179L/R	3059398782	Cement 0.39 ohm 5W J	2	
R180L/R	3069153970	Carbon Film 15 kohm 1/5W J	2	
R181L/R	3069391970	Carbon Film 390 ohm 1/5W J	2	
R182L/R	3069391970	Carbon Film 390 ohm 1/5W J	2	
R183L/R	3069151970	Carbon Film 150 ohm 1/5W J	2	
R184L/R	3069183970	Carbon Film 18 kohm 1/5W J	2	
R185L/R	3069183970	Carbon Film 18 kohm 1/5W J	2	
R186L/R	3069471970	Carbon Film 470 ohm 1/5W J	2	
R187L/R	3069471970	Carbon Film 470 ohm 1/5W J	2	
R188L/R	3069472970	Carbon Film 4.7 kohm 1/5W J	2	
R189L/R	3069242970	Carbon Film 2.4 kohm 1/5W J	2	
R190L/R	3069472970	Carbon Film 4.7 kohm 1/5W J	2	
R191L/R	3069273970	Carbon Film 27 kohm 1/5W J	2	
R192L/R	3069273970	Carbon Film 27 kohm 1/5W J	2	
R193L/R	3069102970	Carbon Film 1 kohm 1/5W J	2	
R194L/R	3069223970	Carbon Film 22 kohm 1/5W J	2	
R195	3069152970	Carbon Film 1.5 kohm 1/5W J	1	
R196/R197	3069223970	Carbon Film 22 kohm 1/5W J	2	
R197/R198	3069332970	Carbon Film 3.3 kohm 1/5W J	2	
R198/R199	3069104970	Carbon Film 100 kohm 1/5W J	2	
R210	3069102970	Carbon Film 1 kohm 1/5W J	1	
R211	3069822970	Carbon Film 8.2 kohm 1/5W J	1	
R211/R212	3069103970	Carbon Film 10 kohm 1/5W J	2	

Ref. No.	Part No.	Description				Q'ty	Version
R213/R214	3029100472	Metal Film	10 ohm	1W	J	2	
R215	3029330472	Metal Film	33 ohm	1W	J	1	
R216	029150472	Metal Film	15 ohm	1W	J	1	
	4235007310	Terminal, Ground				2	
P3-2,3	**054021010044**	**Assembly, PCB, Speaker 1, 2**					
30	4408105810	Terminal, Speaker, ABS				1	
	4408106910	Terminal, Speaker, ABS				2	C Only
C200L/R	3679104297	Mylar	0.1 µF	63 V	K	2	
C201L/R	3679104297	Mylar	0.1 µF	63 V	K	2	
C202L/R	3519104935	Ceramic, Tubular	0.1 µF	50 V	K	2	
C205L/R	3519104935	Ceramic, Tubular	0.1 µF	50 V	K	2	
D200	2058322101	1N4148, Switching				1	
D201	2258100135	1N4002, Rectifier				1	
D202	2058322101	1N4148, Switching				1	
D203	2258100135	1N4002, Rectifier				1	
L200L/R	2648001010	Inductor, 0.5 uH				2	
Q200/Q201	2208606114	MPSA06, NPN Silicon				2	
R200L/R	3029100472	Metal Film	10 ohm	1W	J	2	
R201	3069333970	Carbon Film	33 kohm	1/5W	J	1	
R201L/R	3029100472	Metal Film	10 ohm	1W	J	2	
R202	3069333970	Carbon Film	33 kohm	1/5W	J	1	
RLY200	5528001630	Relay, OSA-SS-224DM5				1	
RLY201	5528001630	Relay, OSA-SS-224DM5				1	
CNT114	436204503131	Lead Assembly, 1P, 550 mm to Headphone				1	
CNT104	4359854920	Lead Assembly, 1P, 200 mm, LV, Diamond White				1	
CNT105	4359854920	Lead Assembly, 1P, 200 mm, LV, Diamond Black				1	
CNT106	4359854920	Lead Assembly, 1P, 200 mm, LV, Diamond Blue				1	
CNT107	4359854920	Lead Assembly, 1P, 200 mm, LV, Diamond Red				1	
CNT109-P	4428517710	Wafer, 4P from Main				1	
P3-1	**054021010045**	**Assembly, PCB, ST/BY**					
32	4448103910	Outlet, 1P, ABS				2	Kor.
	4448103010	Outlet, 1P, ABS				1	A,B
	4448103610	Outlet, 1P, ABS				2	C,F
C500/C501	3679103120	Mylar	0.01 µF	63 V	K	2	
C502	3409333179	Electrolytic SG	330 µF	50 V	M	1	
C503/C504	3479322071	Electrolytic SG	22 µF	50 V	M	2	
C505	3479210971	Electrolytic SA	1 µF	50 V	M	1	
C506	3479310121	Electrolytic SG	100 µF	10 V	M	1	
C507	3549472407	Ceramic, Disc	0.0047 µF	400 V		1	
D500-D503	2258100135	1N4002, Rectifier				4	
D504	2258599105	Zener, UZ 6.2BSB				1	
D505	2258599100	Zener, UZ 3.3BSA				1	
D506	2058322101	1N4148, Switching				1	
D507	2258100135	1N4002, Rectifier				1	
F500	5508301034	Fuse, TL 160 mA, 250 V				1	
F501	5508302935	Fuse, TL 4 A, 250 V				1	D,Kor.
F502	5508301634	Fuse, TL 0.5 A, 250 V				1	D
F503	5508301634	Fuse, TL 0.5 A, 250 V				1	D
Q500	2208606114	MPSA06, NPN Silicon				1	
Q501	2208606104	KTC1815Y/BKTC3198, Switching, NPN, Silicon				1	
R500	3029150472	Metal Film	15 ohm	1W	J	1	
R501	3069561970	Carbon Film	560 ohm	1/5W	J	1	
R502	3069332970	Carbon Film	3.3 kohm	1/5W	J	1	
REY500	5528001640	Relay, OSZ-SS-112DM8				1	
TRANS	2828090901	Standby Transformer				1	Kor.
CNT116-P	4428517610	Wafer, 3P from Front B'D				1	
CNT117-P	4428525780	Wafer, AC, 2P from Trans B'D				1	
CNT118-P	4428525790	Wafer, AC, 3P from Voltage Selecter B'D				1	P,T Indo
CNT119-P	4228001410	Pin, Solder				1	P,T Indo
	4235007310	Terminal, Ground				1	
	4255001010	Clip, Fuse, PFC5000-0202				8	
P2-1	**054021010049**	**Assembly, PCB, Headphone**					
12	4438005020	Jack, Phone, ABS				1	
C700/C701	3679562120	Mylar	0.0056 µF	100V	J	2	
C702	3579104530	Ceramic, Disc	0.1 µF	50V	Z	1	
D700	2058322101	1N4148, Switching				1	
Q700	2208622108	DTC114TS, Switching, NPN, Silicon				1	
R700	3069471970	Carbon Film	470 ohm	1/5W	J	1	
R701L/R	3029561572	Metal Film	560 ohm	2W	J	2	
RLY700	5528001020	Relay, RY12W-K				1	
CNT103-P	4428519310	Wafer, 3P from Main B'D				1	
CNT114-P	4428519410	Wafer, 4P from Speaker B'D				1	
P1-1	**054020810054**	**Assembly, PCB, CNT Kor.**					
	054021010055	Assembly, PCB, CNT					
CNT120	4428513806	Wafer, 13P to Main B'D				1	
CNT120	4428515805	Wafer, 15P to Main B'D				1	Kor.
CNT112	4428513807	Wafer, 13P to Input B'D				1	
CNT112	4428515806	Wafer, 15P to Input B'D				1	Kor.
P1-2	**054021010047**	**Assembly, PCB, Vol. Ind.**					
D600/D601	2308220142	SLH-34K-3					
CNT119-P	4428525520	Wafer, 2P from Front B'D				1	
P3	**054021010053**	**Assembly, PCB, Input**					
VR3	3228016910	Volume, Motor				1	Kor.
	3228016710	Volume, Motor				1	
SW19	4618007510	Switch, Slide				1	
26	4438103210	Jack, RCA 6P, ABS				1	
27	4438103110	Jack, RCA 4P, ABS				3	Kor.
	4438103110	Jack, RCA 6P, ABS				2	
CNT100-P	4428517810	Wafer, 5P from Main B'D				1	
CNT101-P	4428517710	Wafer, 4P from Main B'D				1	
CNT102-P	4428505610	Wafer, 4P from Main B'D				1	
CNT118-P	4428517910	Wafer, 6P from Front B'D				1	
CNT120-P	4428513808	Wafer, 13P from CNT B'D				1	PT.Indo
CNT120-P	4428515808	Wafer, 15P from CNT B'D				1	Kor.
C300	3519101935	Ceramic, Tubular	100 pF	50 V	J	1	
C301L/R	3519101935	Ceramic, Tubular	100 pF	50 V	J	2	
C302	3519101935	Ceramic, Tubular	100 pF	50 V	J	1	
C303L/R	3519101935	Ceramic, Tubular	100 pF	50 V	J	2	
C304	3519101935	Ceramic, Tubular	100 pF	50 V	J	1	
C305L/R	3519101935	Ceramic, Tubular	100 pF	50 V	J	2	
C306	3519101935	Ceramic, Tubular	100 pF	50 V	J	1	
C307L/R	3519101935	Ceramic, Tubular	100 pF	50 V	J	2	
C308	3519101935	Ceramic, Tubular	100 pF	50 V	J	1	
C309L/R	3519101935	Ceramic, Tubular	100 pF	50 V	J	2	
C316/C317	3479347041	Electrolytic SG	47 µF	25 V	M	2	
C318/C319	3479310141	Electrolytic SG	100 µF	25 V	M	2	
C320	3479347041	Electrolytic SG	47 µF	25 V	M	1	
C321	3479310141	Electrolytic SG	100 µF	25 V	M	1	
C322	3479622970	Electrolytic NP	2.2 µF	50 V		1	
C323/C324	3479347041	Electrolytic SG	47 µF	25 V	M	2	
C325	3479622970	Electrolytic NP	2.2 µF	50 V		1	
C326	3479347041	Electrolytic SG	47 µF	25 V	M	1	
C327	3479210971	Electrolytic SA	1 µF	50 V	M	1	
C328	3479347041	Electrolytic SG	47 µF	25 V	M	1	
C329L/R	3519101935	Ceramic, Tubular	100 pF	50 V	J	2	
C330/C331	3479347041	Electrolytic SG	47 µF	25 V	M	2	
C332L/R	3479247971	Electrolytic SA	4 µF	50 V	M	2	
C333L/R	3519470935	Ceramic, Tubular	47 pF	50 V	J	2	
C334L/R	3519331935	Ceramic, Tubular	330 pF	50 V	J	2	
C335L/R	3579820130	Ceramic, Disc	82 pF	50 V	J	2	
C336L/R	3479247971	Electrolytic SA	4 µF	50 V	M	2	
C337L/R	3679123120	Mylar	0.012 µF	100 V	J	2	
C338/C339	3479347041	Electrolytic SG	47 µF	25 V	M	2	
C350L/R	3479247971	Electrolytic SA	4 µF	50 V	M	2	

Ref. No.	Part No.	Description				Q'ty	Version
C351L/R	3479247971	Electrolytic SA	4 µF	50 V	M	2	
C352L/R	3479247971	Electrolytic SA	4 µF	50 V	M	2	
D300/D301	2058322101	1N4148, Switching				2	
D302	2258599104	Zener, UZ 5.6BSB				1	
D303/D304	2058322101	1N4148, Switching				2	
IC300	2168017132	LC7821, Function Switching				1	
IC301	2168020106	NJM2068DD				1	
IC302/IC303	2168206104	KIA75559P, OP Amplifier				2	
IC304	2168007204	TA7291S, Motor Control				1	
IC305	2168020106	NJM2068DD				1	
Q300L/R	2208606112	KTD1302B, muting, NPN Silicon				2	
Q301L/R	2208606112	KTD1302B, muting, NPN Silicon				2	
Q302	2208622108	DTC114TS, Switching, NPN, Silicon				1	
Q303-Q307	2208222105	DTA114YS, Switching, PNP, Silicon				5	
Q309L/R	2218207106	FET, 2SK117Y, Switching, N Channel				2	
Q310L/R	2218207106	FET, 2SK117Y, Switching, N Channel				2	
Q311L/R	2218207106	FET, 2SK117Y, Switching, N Channel				2	
Q312L/R	2218207106	FET, 2SK117Y, Switching, N Channel				2	
Q313	2208222105	DTA114YS, Switching, PNP, Silicon				1	
R300L/R	3069102970	Carbon Film	1 kohm	1/5W	J	2	
R301L/R	3069102970	Carbon Film	1 kohm	1/5W	J	2	
R302L/R	3069102970	Carbon Film	1 kohm	1/5W	J	2	
R303L/R	3069102970	Carbon Film	1 kohm	1/5W	J	2	
R304L/R	3069102970	Carbon Film	1 kohm	1/5W	J	2	
R305L/R	3069102970	Carbon Film	1 kohm	1/5W	J	2	
R306L/R	3069332970	Carbon Film	3.3 kohm	1/5W	J	2	
R307L/R	3069102970	Carbon Film	1 kohm	1/5W	J	2	
R308L/R	3069272970	Carbon Film	2.7 kohm	1/5W	J	2	
R309L/R	3069473970	Carbon Film	47 kohm	1/5W	J	2	
R310L/R	3069473970	Carbon Film	47 kohm	1/5W	J	2	
R311L/R	3069154970	Carbon Film	150 kohm	1/5W	J	2	
R312L/R	3069154970	Carbon Film	150 kohm	1/5W	J	2	
R313/R314	3069471970	Carbon Film	470 ohm	1/5W	J	2	
R315	3069103970	Carbon Film	10 kohm	1/5W	J	1	
R316	3069682970	Carbon Film	6.8 kohm	1/5W	J	1	
R317	3029330472	Metal Film	33 ohm	1W	J	1	
R318	3069822970	Carbon Film	8.2 kohm	1/5W	J	1	
R319	3069202970	Carbon Film	2 kohm	1/5W	J	1	
R320	3069333970	Carbon Film	33 kohm	1/5W	J	1	
R321	3069334970	Carbon Film	330 kohm	1/5W	J	1	
R322	3069103970	Carbon Film	10 kohm	1/5W	J	1	
R323	3069334970	Carbon Film	330 kohm	1/5W	J	1	
R324	3069333970	Carbon Film	33 kohm	1/5W	J	1	
R325	3069471970	Carbon Film	470 ohm	1/5W	J	1	
R326	3069104970	Carbon Film	100 kohm	1/5W	J	1	
R327-R329	3069471970	Carbon Film	470 ohm	1/5W	J	3	
R330L/R	3069154970	Carbon Film	150 kohm	1/5W	J	2	
R331L/R	3069104970	Carbon Film	100 kohm	1/5W	J	2	
R333L/R	3069106970	Carbon Film	10 Mohm	1/5W	J	2	
R334L/R	3069106970	Carbon Film	10 Mohm	1/5W	J	2	
R335L/R	3069106970	Carbon Film	10 Mohm	1/5W	J	2	
R336L/R	3069106970	Carbon Film	10 Mohm	1/5W	J	2	
R337L/R	3069102970	Carbon Film	1 kohm	1/5W	J	2	
R338L/R	3069473970	Carbon Film	47 kohm	1/5W	J	2	
R339L/R	3069221970	Carbon Film	220 ohm	1/5W	J	2	
R340L/R	3069132970	Carbon Film	1.3 kohm	1/5W	J	2	
R341L/R	3069471970	Carbon Film	470 ohm	1/5W	J	2	
R342L/R	3069104970	Carbon Film	100 kohm	1/5W	J	2	
R343/R344	3069471970	Carbon Film	470 ohm	1/5W	J	2	
R345	3069684970	Carbon Film	680 kohm	1/5W	J	1	
R346	3069335970	Carbon Film	3.3 Mohm	1/5W	J	1	
R347L/R	3069332970	Carbon Film	3.3 kohm	1/5W	J	2	
R351L/R	3069103970	Carbon Film	10 kohm	1/5W	J	2	
R352L/R	3069221970	Carbon Film	220 ohm	1/5W	J	2	
R358L/R	3069471970	Carbon Film	470 ohm	1/5W	J	2	

Ref. No.	Part No.	Description				Q'ty	Version
R359L/R	3069103970	Carbon Film	10 kohm	1/5W	J	2	
P2	**054021010052**	**Assembly, PCB, Front**					
VR1	3208059910	VR, Rotary, 100KA				2	
VR2	3208060010	VR, Rotary, 250KMN				1	
SW1-SW16	4658003710	Switch, Tact 16					
SW17	4608003210	Switch, Selector				1	
SW18	4618007510	Switch, Slide				1	
C400L/R	3479247971	Electrolytic SA	4 µF	50 V	M	2	Kor.
C401/C402	3479347041	Electrolytic SG	47 µF	25 V	M	2	Kor.
C404	3479210971	Electrolytic SA	1 µF	50 V	M	1	
C405	3479210071	Electrolytic SA	10 µF	50 V	M	1	
C405L/R	3679153120	Mylar	0.015 µF	100 V	J	2	
C407L/R	3679823120	Mylar	0.082 µF	100 V	J	2	
C408L/R	3479222971	Electrolytic SA	2 µF	50 V	M	2	
C409L/R	3679333120	Mylar	0.033 µF	100 V	J	2	
C410L/R	3679183120	Mylar	0.018 µF	100 V	J	2	
C411L/R	3479210071	Electrolytic SA	10 µF	50 V	M	2	
C412L/R	3579391130	Ceramic, Disc	390 pF	50 V	J	2	
C413L/R	3479347041	Electrolytic SG	47 µF	25 V	M	2	
C414L/R	3479210971	Electrolytic SA	1 µF	50 V	M	2	
C415L/R	3479247971	Electrolytic SA	4 µF	50 V	M	2	
C416L/R	3679104297	Mylar	0.1 µF	63 V	K	2	
C417L/R	3679823120	Mylar	0.082 µF	100 V	J	2	
C418	3479310141	Electrolytic SG	100 µF	2 5V	M	1	
C418L/R	3519551935	Ceramic, Tubular	550 pF	50 V	J	2	
C419	3479310141	Electrolytic SG	100 µF	25 V	M	1	
C420-C422	3519220935	Ceramic, Tubular	22 pF	50 V	J	3	
C423	3519821935	Ceramic, Tubular	820 pF	50 V	J	1	
C424	3479210871	Electrolytic SA	0.1 µF	50 V	M	1	
C425	3449347314	Capacitor,Backup,FMDH473ZTP	0.047 µF	5.5 V		1	
C426	3519103935	Ceramic, Tubular	0.01 µF	50 V	Z	1	
C427L/R	3479247971	Electrolytic SA	4 µF	50 V	M	2	Kor.
C428L/R	3479247971	Electrolytic SA	4 µF	50 V	M	2	
D400/D401	2058322101	1N4148, Switching				2	
D402	2371124702	LED, SLR-54URCF03				1	
D403-D415	2371124502	LED, SLR-54YCF03				13	
IC400	2168020106	NJM2068DD				1	
IC401	2168801100	GL393				1	Kor.
IC402	2138322162	IC, CXP5046H-291S				1	
IC403	2168206107	KIA6259P, OP Amplifier				1	Kor.
Q400-Q403	2208622106	DTC114YS, Switching, NPN, Silicon				4	
Q404	2208606114	MPSA06, NPN Silicon				1	
Q405-Q417	2208622106	DTC114YS, Switching, NPN, Silicon				13	
Q418	2218207106	FET, 2SK117Y, Switching, N Channel				1	
Q419	2208622106	DTC114YS, Switching, NPN, Silicon				1	
R400/R401	3069102970	Carbon Film	1 kohm	1/5W	J	2	
R402L/R	3069104970	Carbon Film	100 kohm	1/5W	J	2	Kor.
R403/R404	3069471970	Carbon Film	470 ohm	1/5W	J	2	Kor.
R405L/R	3069470970	Carbon Film	47 ohm	1/5W	J	2	
R406L/R	3069104970	Carbon Film	100 kohm	1/5W	J	2	Kor.
R407R	3069392970	Carbon Film	3.9 kohm	1/5W	J	1	
R408	3069474970	Carbon Film	470 kohm	1/5W	J	1	
R409	3069103970	Carbon Film	10 kohm	1/5W	J	1	
R410L/R	3069223970	Carbon Film	22 kohm	1/5W	J	2	
R411L/R	3069101970	Carbon Film	100 ohm	1/5W	J	2	
R412L/R	3069392970	Carbon Film	3.9 kohm	1/5W	J	2	
R413L/R	3069683970	Carbon Film	68 kohm	1/5W	J	2	
R414L	3069474970	Carbon Film	470 kohm	1/5W	J	1	
R414R	3069222970	Carbon Film	2.2 kohm	1/5W	J	1	
R415L/R	3069105970	Carbon Film	1 Mohm	1/5W	J	2	
R416L/R	3069823970	Carbon Film	82 kohm	1/5W	J	2	
R417L/R	3069821970	Carbon Film	820 ohm	1/5W	J	2	
R418L/R	3069154970	Carbon Film	150 kohm	1/5W	J	2	
R419L/R	3069154970	Carbon Film	150 kohm	1/5W	J	2	

Ref. No.	Part No.	Description					Q'ty	Version
R420L/R	3069332970	Carbon Film	3.3 kohm	1/5W	J		2	
R421L/R	3069182970	Carbon Film	1.8 kohm	1/5W	J		2	
R422L/R	3069223970	Carbon Film	22 kohm	1/5W	J		2	
R423L/R	3069152970	Carbon Film	1.5 kohm	1/5W	J		2	
R424L/R	3069102970	Carbon Film	1 kohm	1/5W	J		2	
R425L/R	3069104970	Carbon Film	100 kohm	1/5W	J		2	
R426/R427	3069471970	Carbon Film	470 ohm	1/5W	J		2	
R428	3069154970	Carbon Film	150 kohm	1/5W	J		1	
R429/R430	3069105970	Carbon Film	1 Mohm	1/5W	J		2	
R431	3069471970	Carbon Film	470 ohm	1/5W	J		1	
R432-R440	3069103970	Carbon Film	10 kohm	1/5W	J		9	
R441/R442	3069221275	Carbon Film	220 ohm	1/4W	J		2	
R443	3069332970	Carbon Film	3.3 kohm	1/5W	J		1	
R445	3069223970	Carbon Film	22 kohm	1/5W	J		1	
R446-R450	3069334970	Carbon Film	330 kohm	1/5W	J		5	
R451-R464	3069102970	Carbon Film	1 kohm	1/5W	J		4	
R465	3069103970	Carbon Film	10 kohm	1/5W	J		1	
R467L/R	3069103970	Carbon Film	10 kohm	1/5W	J		2	
R469L/R	3069103970	Carbon Film	10 kohm	1/5W	J		2	
RMC400	2408000133	Sensor, Remote, KRM-40					1	
X400	3938131570	Resonator, CST4.00MGW					1	
CNT119	436202083132	Lead Assembly, 2P, 80 mm to Volume Indicater B'D					1	
CNT116	436203353131	Lead Assembly, 3P, 350 mm to ST/BY B'D					1	
CNT113-P	4428526330	Wafer, FPC, 21P to Main B'D					1	D,PT.Indo
	4428526350	Wafer, FPC, 23P to Main B'D						Kor.
CNT118	436206458131	Lead Assembly, 6P, 450 mm to Input B'D					1	
CNT115	436204608331	Lead Assembly, 4P, 600 mm to Main B'D					1	
CNT121	435208228352	Lead Assembly, 8P, 220 mm					1	
P4	**054020910046**	**Assembly, PCB, Voltage Selecter B Only**						
44	4618006610	Switch, Voltage Selecter, 3P					1	
45	4618006510	Switch, Voltage Selecter, 6P					1	
CNT900-P	4428525800	Wafer, AC, 4P					1	
CNT117-P	4428525780	Wafer, AC, 2P					1	
CNT118-P	4428525790	Wafer, AC, 3P					1	
CNT119-P	4358901260	Plug, AC, 1P					1	
	4359852214	Lead Assembly, 1P, LV					1	
	4358880214	Lead Assembly, 2P, LV					1	
	4358880314	Lead Assembly, 3P, LV					1	
	5508202721	Fuse, NB 3.15 A, 125 V					1	
	5508303135	Fuse, TL , 6 A, 250 V					1	
P5	**054021010050**	**Assembly, PCB, Commander**						
C1	3479347041	Electrolytic SG	47 µF	25 V	M		1	
IC1	2138013122	uPD6122G-002					1	
Q1	2208606112	KTD1302B, muting, NPN Silicon					1	
R1-R5	3069224970	Carbon Film	220 kohm	1/5W	J		5	
R6	3069471970	Carbon Film	470 ohm	1/5W	J		1	
LED	2408001139	LED, I.R EL-5HIR7/SI5312-H					1	
X-TAL	3938101890	Resonator, Ceramic CST455					1	

Power requirements:

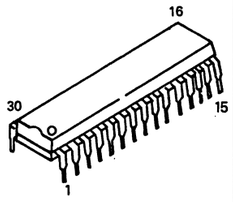
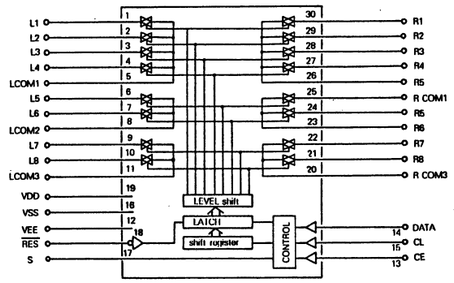
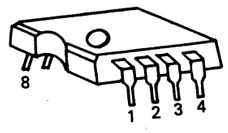
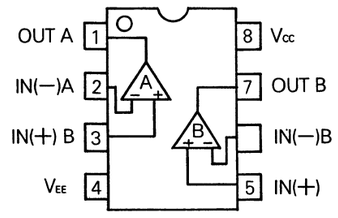
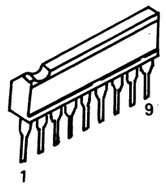
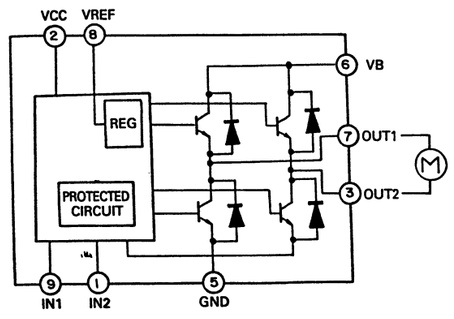
A: 120 V, 60 Hz for American/Canadian Version
B: 120/220 V, 60/50 Hz for multy voltage version (switchable)
D: 230 V, 50 Hz for German and Gereral European Version
E: 240 V, 50 Hz for UK/Austalian Version
G: 220 V, 50 Hz for Other Area

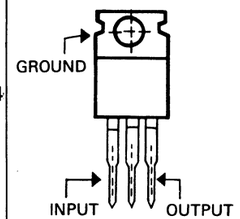
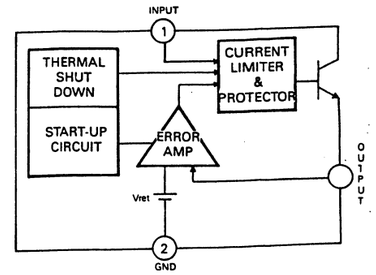
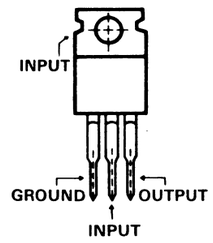
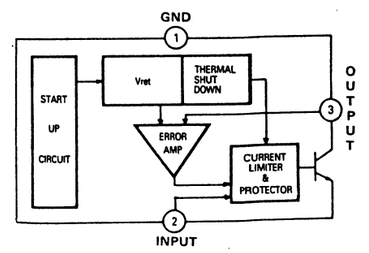
PRODUCT SAFETY NOTICE

Each precaution in this manual should be follower during servicing. Components identified with the IEC symbol ⚠ in the parts list and the safety can be of special significance. When replacing a component identified with ⚠ , use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

SEMICONDUCTOR LEAD IDENTIFICATION AND INTERNAL DIAGRAM

ICS

DESCRIPTION	VIEW	INTERNAL DIAGRAM
LC7821: IC300		
NJM2068, KIA6259: IC101L/R, IC100 IC303, IC302, IC301, IC305, IC400, IC403		
TA7291S: IC304		

DESCRIPTION	VIEW	
GD78XX: IC102, IC104		
GD79XX: IC103		

SEMICONDUCTOR VOLTAGE CHART

ICS

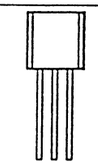
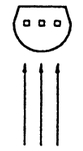
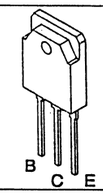
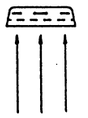
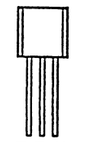
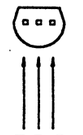
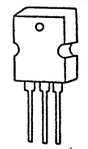
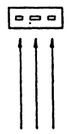
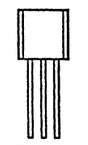
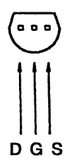
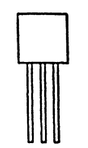
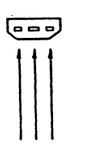
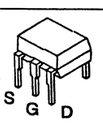
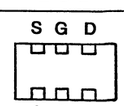
			VOLTAGE																			
PART	PART	DEVICE	1/21	2/22	3/23	4/24	5/25	6/26	7/27	8/28	9/29	10/30	11/31	12/32	13/33	14/34	15/35	16/36	17/37	18/38	19/39	20/40
Main Board	IC100	NJM2068DD	0	0	0	-18	0	0	0	+18												
	IC101L/R	NJM2068DD	0	0	0	-16	0	0	0	+16												
	IC102	GL7818	28	0	18																	
	IC103	KA7918	0	-28	-18																	
	IC104	GL7815	28	0	15																	
Input Board	IC300	LC7821	0/0	0/0	0/0	0/0	/0	/0	/0	/0	/0	/0	0/	-18/0	0/	0/	+5/	0/	0/	-18/	+18/	0/
	IC301	NJM2068DD	0	0	0	-18	0	0	0	+18												
	IC302/IC303	KIA75559P	0	0	0	-17	0	0	0	+18												
	IC304	TA7291S	+5	+14	0.5	0	0	3.3	3.3	+14	5.3											
	IC305	NJM2068DD	0	0	0	-16	0	0	0	+16												
Front Board	IC400	NJM2068DD	0	0	0	-16	0	0	0	+16												
	IC401	GL393	+5.4	0	0	0	0	0.2	0.6	+14												
	IC403	KIA6259P	0	0	0	-16	0	0	0	+16												

TRANSISTORS

PART	Ref.No	Device	Voltage		
			B	C	E
Main Board	Q100L/R	2SC3329GR	0.6	6.3	0
	Q101L/R	2SA1316GR	– 0.6	– 6.3	0
	Q102L/R	FET, 2SK117Y	0	0.5	0
	Q103L/R	FET, 2SK117Y	0	– 3	0
	Q105L/R	FET, 2SK117Y	0	0.6	0
	Q106L/R	FET, 2SK117Y	0	0.6	0
	Q112-Q116	2SK117Y	0	9.9	0
	Q117L/R	MPSA06	0.2	– 56	– 56
	Q118	KTA1016Y/BKTA1266	14	0	14
	Q119	DTA114YS	5	0	0
	Q120L/R	KTD1302B	0.7	+1	0
	Q121	KTC1815Y/BKTC3200	0	5	0
	Q123L/R	2SK332	0.2	0	25
	Q124L/R	KTC2240BL/BKTC3200	25	56	24
	Q125L/R	KTC2240BL/BKT3200	25	56	24
	Q126L/R	BKTA949/KTA1024	+56	+1	+57
	Q127L/R	2SC4137	0.4	+1	– 1
	Q128L/R	KTC2229Y/KTC3206	– 56	– 1	– 57
	Q129L/R	2SA958	– 1	– 57	– 0.5
	Q130L/R	2SC2168	+1	+57	+0.5
	Q131L/R	2SC3854	0.5	56	0
	Q132L/R	2SC3854	0.5	56	0
	Q133L/R	2SA1491	– 0.5	– 56	0
	Q134L/R	2SA1491	– 0.5	– 56	0
	Q136L/R	MPSA06	0.7	+1	0
	Q137	KTC185Y/BKTC3198	0	5	0
	Q138	DTA114YS	0	3.3	3.3

PART	Ref.No	Device	Voltage		
			B	C	E
S/P B'D	Q200/Q201	MPSA06	0.6	4.4	0
Input Board	Q300L/R	KTD1302B	– 15.1	0	0
	Q301L/R	KTD1302B	– 15.1	0	0
	Q302	DTC114TS	5.2	0	0
	Q303-Q307	DTA114YS	0	9.7	0
	Q309L/R	2SK117Y	0.5	0.5	0
	Q310L/R	2SK117Y	0	0.5	0
	Q311L/R	2SK117Y	0	0.5	0
	Q312L/R	2SK117Y	0	0.5	0
	Q313	DTA114YS	0	0.5	0
Front Board	Q400-Q403	DTC114YS	0	13	0
	Q404	MPSA06	0.6	0	0
	Q405-Q417	DTC114YS	0	13	0
	Q418	2SK117Y	0	1.4	1.4
	Q419	DTC114YS	0	13	0
ST/BY Board	Q500	MPSA06	6	6	11
	Q501	KTC1815Y/BKTC3198	0.7	0.7	0
H/P B'D	Q700	DTC114TS	5.2	0	0

TRANSISTORS

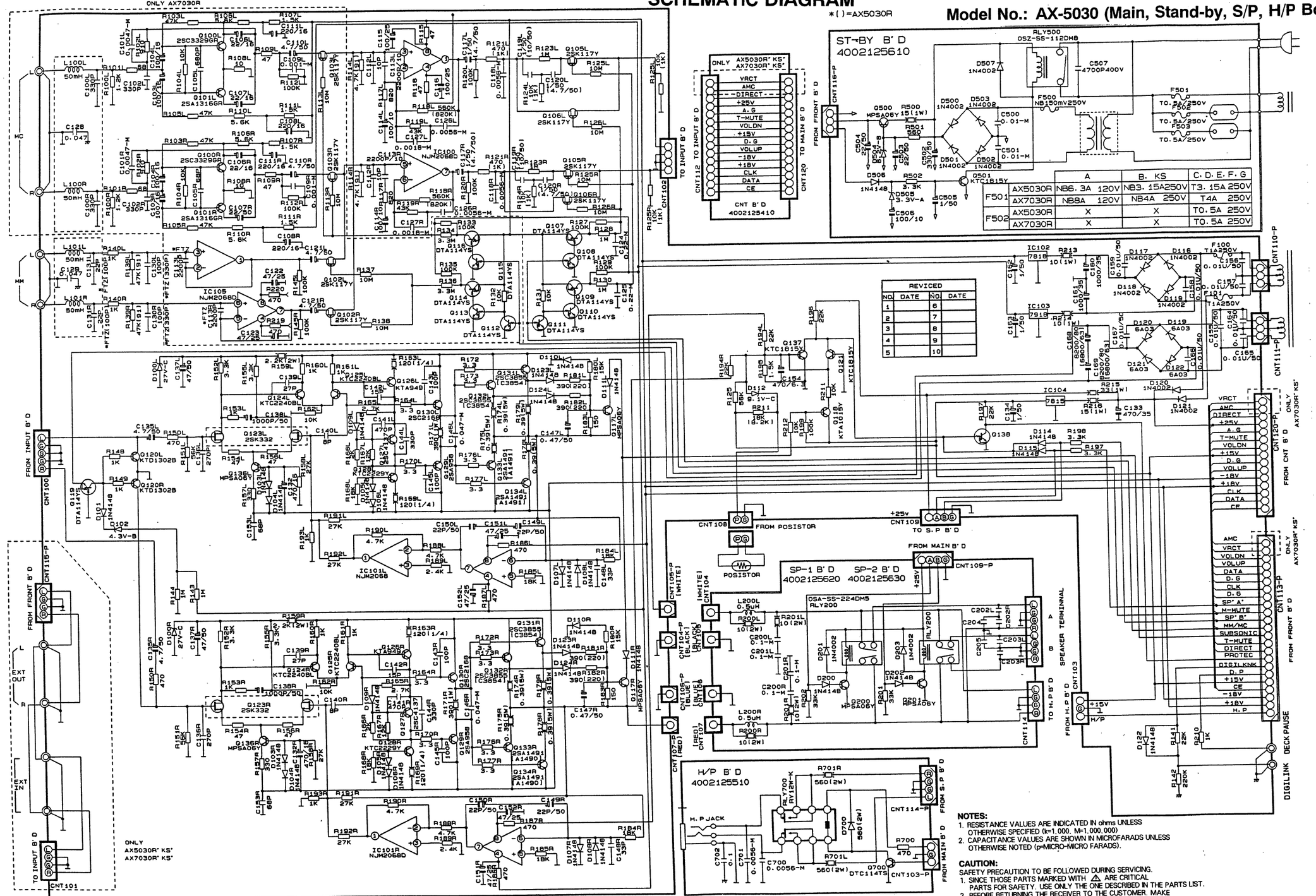
DESCRIPTION	FRONT VIEW	BOTTOM VIEW
2SC3229GR 2SA1316GR 2SC1815/2SC3198 KTD1302 KTC2235 KTA970 KTA949,KTC2229		
2SA1386A-Y 2SC4883A-Y 2SC3519A-Y **2SC3855** **2SA1491**		
MPSA06		
2SC4137		
2SK117Y		
DTC114TS DTC114YS DTC144E		
2SK332F		

TERMINAL NAME

B → BASE
C → COLLECTOR
E → EMITTER
S → SOURCE
G → GATE
D → DRAIN

SCHEMATIC DIAGRAM

Model No.: AX-5030 (Main, Stand-by, S/P, H/P Board Section)



NOTES:

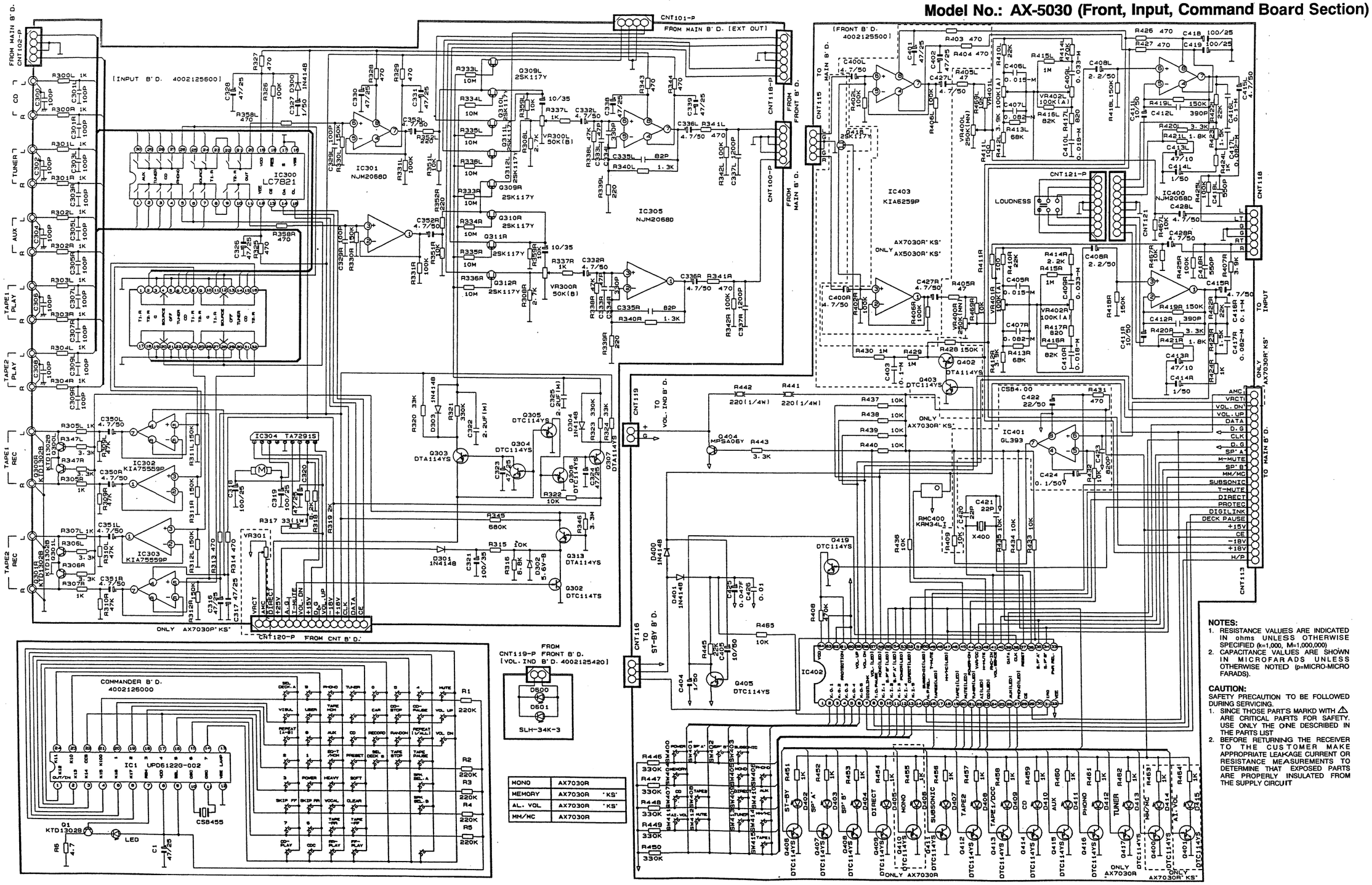
1. RESISTANCE VALUES ARE INDICATED IN ohms UNLESS OTHERWISE SPECIFIED (k=1,000, M=1,000,000)
2. CAPACITANCE VALUES ARE SHOWN IN MICROFARADS UNLESS OTHERWISE NOTED (p=MICRO-MICRO FARADS).

CAUTION:

SAFETY PRECAUTION TO BE FOLLOWED DURING SERVICING.

1. SINCE THOSE PARTS MARKED WITH ⚠ ARE CRITICAL PARTS FOR SAFETY. USE ONLY THE ONE DESCRIBED IN THE PARTS LIST.
2. BEFORE RETURNING THE RECEIVER TO THE CUSTOMER. MAKE APPROPRIATE LEAKAGE CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE PROPERLY INSULATED FROM THE SUPPLY CIRCUIT.

Model No.: AX-5030 (Front, Input, Command Board Section)



MONO	AX7030R
MEMORY	AX7030R 'KS'
AL. VOL	AX7030R 'KS'
MM/MC	AX7030R

NOTES:

1. RESISTANCE VALUES ARE INDICATED IN ohms UNLESS OTHERWISE SPECIFIED (k=1,000, M=1,000,000)
2. CAPACITANCE VALUES ARE SHOWN IN MICROFARADS UNLESS OTHERWISE NOTED (p=MICRO-MICRO FARADS).

CAUTION:

SAFETY PRECAUTION TO BE FOLLOWED DURING SERVICING.

1. SINCE THOSE PARTS MARKD WITH ⚠ ARE CRITICAL PARTS FOR SAFETY. USE ONLY THE ONE DESCRIBED IN THE PARTS LIST
2. BEFORE RETURNING THE RECEIVER TO THE CUSTOMER MAKE APPROPRIATE LEAKAGE CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE PROPERLY INSULATED FROM THE SUPPLY CIRCUIT